Modern packaging

Nominated for *Packaging's Hall of Fame*. Story on Page 84

January 1951

U. S. Government ADHESIVE SPECIFICATIONS

In Chart Form! An authoritative up-to-the-minute chart listing 21 of the principal government specifications that call for adhesives. Each specification is tabulated by symbol . . . description of the item . . . the adhesive application involved . . . *and the adhesive we recommend to do the job.*

This information represents years of close cooperation with a number of government agencies, and covers a wide range of packaging operations from labeling to load palletizing.

Since government specifications are subject to change from time to time, we suggest that you periodically contact our Technical Service Departments for the latest available data. We'll be happy to assist and advise you on current military requirements as well as special applications — anytime!

Address: National Adhesives, 270 Madison Avenue, New York 16, N. Y.

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EVERY TYPE OF ADHESIVE FOR EVERY INDUSTRIAL USE

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Magic IN

FOIL CARTONS by GAIR

When a Gair-Reynolds foil package is displayed on the dealer's counter, showcase, shelf or in the window, a sensational sales impact is automatically created. In many instances sales have doubled and tripled through the persuasive influence of these brilliant, multi-color foil cartons.

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NEW YORK TORONTO

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Modern packaging

Vol. 24 No. 5 January 1951

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FULLY AUTOMATIC Feeding – Filling – Closing

Barton Manufacturing Company of St. Louis pack their well-known *Dyanshine* shoe preparations in cartons which also must hold a wire dauber or a piece of velour which the consumer uses to apply the product.

A REDINGTON Type 23, adapted to Barton's particular specifications, gives a complete answer. The machine automatically takes bottles coming from the labeling machine and lays them down in the pockets of the article conveyor. Room along the conveyor has been provided for requisite number of attendants to place dauber or velour piece in each pocket as the bottles travel towards the carton magazine. At that point, the machine feeds collapsed cartons from magazine, forms them, inserts bottle and accessory, and closes the cartons by tucking. To provide for all packing conditions, a variable drive permits operation at any speed from 60 to 150 packages a minute; and the machine may be quickly adjusted for different package sizes.

The REDINGTON Type 23 thus gives Barton fast, complete packaging at low operating costs, together with full flexibility to handle all normal contingencies. And like all REDINGTON Cartoning Machines, this installation assures trouble-free performance over a long life through such exceptional design features as: *self-aligning roller bearings, ground and polished shafting, solid one-piece cast iron frame, individual numbering of every part, and many others.*

Bring Us YOUR Problem

Whether it is simple or complex, routine or unique, large or small output, 54 years of REDINGTON experience with packaging in many fields can help you. Our skilled engineers will be glad to give practical advice, estimates — write us today.

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Modern packaging

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EDITORIAL

The booby trap in procurement

IN OUR NOVEMBER ISSUE a distinguished contributor, Herbert Holbrook, pointed out the grave danger to our military effort resulting from the apparent failure of the current military organization to remember—or give the proper importance to—the hard-won packaging lessons of the last war. The article has been widely noted, from General Marshall on down, and has, we believe, served its constructive purpose.

But no one should think that the packaging procedure of the last war was without fault. There was one basic and glaring fault—the failure to make a packaging set-aside to cover end-item orders—that too often frustrated the best efforts of the packaging experts to see that supplies reached the fighting fronts in fighting condition.

Packaging people will recall the Standard Operating Procedure all too vividly. It goes like this:

(1) Contracts are let for needed military end items.

(2) Materials are simultaneously set aside to cover the end items and the balance of scarce materials portioned out to a hard-pressed civilian economy.

(3) Three months to a year later—bells, whistles and alarms! The end items are now nearly ready to ship to troops desperately in need of them and somebody has discovered that the packaging materials so carefully specified months before are now unavailable. There are only two alternatives: (a) the use of inferior packaging, or (b) a drastic and time-consuming search for whatever additional materials can be squeezed out of the civilian economy.

(4) The result of delay, confusion and substitution is that vital material reaches the front too late, or with such damage from inferior packaging that it might better not have been sent at all.

The correction of this tragic error can only be accomplished at the highest levels of Government planning and it must be done *now*, at the very beginning of a new program.

The Editors

The case for

Aluminum Foil

in the Drug Field

Aluminum foils laminated to films and specialty papers offer outstanding properties for packaging units of drugs, dressings, instruments and other products used in medicine and surgery.

They ***seal out*** moisture, light, air. They ***seal in*** full efficacy. They do so with the minimum of bulk and weight and no breakage problems.

This laminating technique uses a minimum of strategic metal by supporting extremely thin layers of foil with heat-sealing films or coatings, which add strength and durability to the impervious metal ply.

A recent vital development in laminated foil has been the perfecting of a package for sterile transfusion and injection sets. Prepared for quick use under emergency conditions, these infusion sets are sterilized by heat—after packaging—thus guaranteeing safe use in months or years to come.

Laminated foils offer amazing protection with light weight, yet are adapted to high-speed packaging on automatic machinery. That's why so many military specifications call for laminated foil for packaging ration components. That's one reason supply is short and government restrictions on civilian use are in effect.

An Invitation

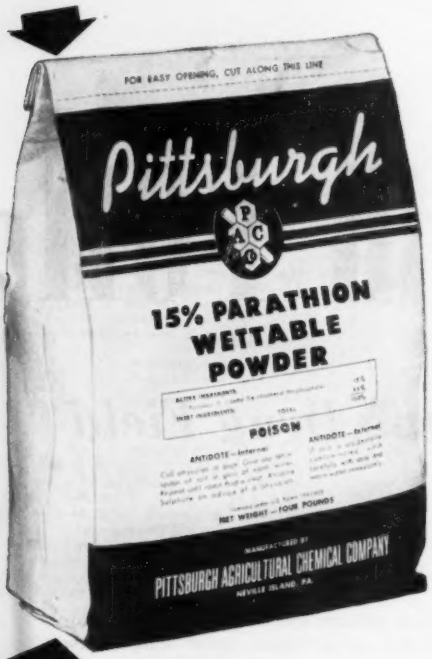
If you produce essential drugs, surgical instruments or treated bandages, there may still be a chance to supply you. Give us the facts so we may fully explore the possibilities. Dobeckmun produces a whole family of laminated aluminum foil packaging materials, under our trade name "METALAM." One of these combinations may fit your needs.

Present limitations will prevent us from accepting new business in most fields. But even in such cases, let us work with you now, in the development of a laminated foil for packaging your product when conditions become normal.

Dobeckmun
CREATIVE CONVERTERS OF FILMS AND FOILS

Branches at: Atlanta, Boston, Chicago, Cincinnati, Detroit, Los Angeles, Milwaukee, New York, Philadelphia, Portland, St. Louis, St. Paul and Seattle. Representatives everywhere.

NEW! Betner "Duo-Tite" Bag



TOP & BOTTOM
Inner heat-seal plus added strength and protection of the "Duo-Tite" turnover.

If there is any bag that *positively won't* permit dry particles to sift, this is it! Betner's new method of construction combines special liners with folding, gluing and heat-sealing in such a way that there is virtually "No Sift" for contents.

This new Betner bag is perfect for insecticides, fertilizers and other chemicals that must be packaged in sift proof containers. It is also ideally suited for packaging foods. Available in sizes holding from 5 to 25 lbs. of bulk powdered material; can be preprinted up to four colors; and can be made in several combinations of materials.

and...

Betner can supply the special machinery for closing the "Duo-Tite" bag . . . it heat-seals, double folds and pastes the tops in exactly the same manner as the bottom is constructed. Your inquiries are welcome, and samples with full technical information will be supplied promptly.

Benj C Betner Co DEVON, PA.

BENJ. C. BETNER of Va., Richmond, Va.; BENJ. C. BETNER CO. of WISCONSIN, Appleton, Wisconsin; BENJ. C. BETNER CO., Paris, Texas; BENJ. C. BETNER CO. of CALIFORNIA, Los Angeles, California

A complete bag service—from idea to finished bag to machinery for closing coffee bags and filling and closing liner bags for cartons.

Another new development using

B. F. Goodrich Chemical Company *raw materials*

B. F. Goodrich Chemical Company does not make the decal. We supply raw materials only.

LET an idea-man work with Geon materials, and he'll come up with a new sales-maker! Take the decal pictured here, for example. It's made from Geon paste resin which helps give it these revolutionary advantages.

This decal can be made transparent, translucent or opaque. It adheres to glass and enameled, glossy, painted or metal surfaces—*without* adhesive. A wipe with a damp cloth keeps it clean. It can be easily removed, leaves no mark or stain and is reusable. It can be made in a variety of thicknesses, cut in many shapes, printed in brilliant colors.

And see how economical and versatile Geon paste resin is! You need no heavy or expensive mixing equipment for it; it is easily dispersed in plasticizers. No volatile solvents are required. You can mold, cast, or use it for coating and dipping. And you can get the qualities you want—flexibility, toughness, resistance to aging and abrasion, chemical inertness. Color range is unlimited.

Geon paste resin is used for making coated upholstery, dolls and toys, coatings for plating racks, prosthetic devices, linings for chemical tanks. Its versatility may give you an idea that we can help you turn into profitable sales.

We make no finished products—supply raw materials only. But technical advice is yours for the asking. Just write Dept GJ-1, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco.

GEON RESINS • GOOD-RITE PLASTICIZERS . . . the ideal team to make products easier, better and more saleable.

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It has to look good before it tastes good!

Call it "package attraction" . . . but attractive colorful wrappers, neatly sealed are highly important in successful point of sale merchandising. Lynch WRAP-O-MATICS do a fast, accurate wrapping job even if your product is irregular shaped or fragile, with or without boats or cards. See what they can do for your problem.

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PAR REFRIGERATION COMPRESSORS

WRAP-O-MATIC CANDY & COOKIE WRAPPING MACHINES

LYNCH CORPORATION

PACKAGING MACHINE DIVISION

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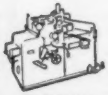
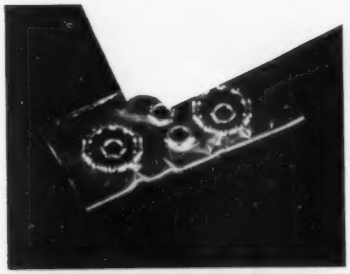


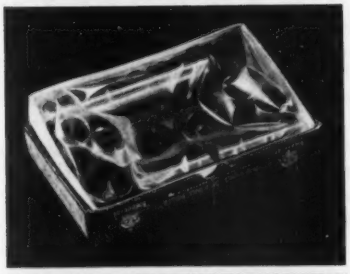
MORPAC PAPER PACKAGING MACHINES

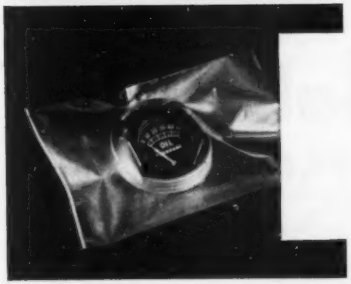
MORPAC BUTTER & OLEO CARTONING MACHINES

GLASS FORMING MACHINES

For *Government Orders*







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***Polyethylene is first choice for protective packaging. Meets packaging requirements for many government orders.**

Government orders with DO (defense order) rating will be given preferential treatment with respect to production and shipment. Such orders calling for the use of special laminated materials, cellophane, glassine, tralon (polyethylene), pliofilm, acetate, aluminum foil, and paper board "loxtite" partitions will be filled regardless of any material allocation restrictions. Our several plants are ready to serve you in fulfilling package requirements as outlined above.

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Required Reading

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Truly required reading for virtually every manufacturer, this useful eight page guide can help you improve your package designs, lower packaging costs, and boost product sales. So send for your free copy. Simply clip the coupon, fill it out, and mail it today.

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Are you sure you know where your next shipment of closures is coming from?... and when you're going to get them?

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In a survey* made by Fact Finders, Inc., covering more than 200 barmen in high-traffic bars in four major cities, *wood-top cork closures were voted a 2 to 1 choice over any other type.*

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Read the results of this survey for yourself. It's fact-packed with ideas for you. We'll be glad to send a copy on request.

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Dodge
CORK CLOSURES

DESIGNED TO GUARD THE INTEGRITY OF THE CONTENTS

THE BEMIS DELTASEAL BAG *PLUS* DELTASEAL PACKAGING EQUIPMENT

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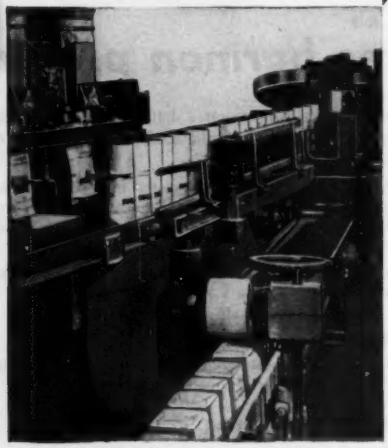
The most Economical, Efficient Package for Your Product



- Deltaseal® filling and closing is fast... mostly automatic... less handling.
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If these eyes look *alike* to you—look again!
But you won't need a second look to discover the reason for the swing to Oneida "care-crafted" Coffee Bags. Wherever bagged coffee is sold, you will find Oneida Coffee Bags setting the cash-register pace. Oneida specializes in thoroughly efficient coffee bags that "square-off" like boxes when packed, thus aiding and simplifying point-of-sale display techniques. They're engineered to give smooth, trouble-free performance, too, on automatic packaging equipment. Discerning buyers also say that the power-packed individuality of Oneida design, and the skill with which art work is converted into a gleaming, glossy-sheen printing result, makes for the plus that produces extra sales. Oneida invites you to examine samples, at no cost. Whether you package coffee, or any other free-flowing or semi-free-flowing product, Oneida can create a flexible package that will give your product the protection it requires plus positive shelf-appeal and speedy brand identification.

Many Of America's Most Famous Coffees Go To Market In Oneida Coffee Bags!

Designers and Producers of Flexible Packaging for Industrial and Point-of-Sale Use.

Converters and Color Printers of Cellophane, Glassine, Sulphite, Bleached and Natural Kraft, Pliofilm, Acetate, Foil, Plastic. Waxed and Treated Grades in: Rolls, Sheets and Flat, Square, Automatic, Window, Satchel-Bottom, Duplex and Heat Seal Bags.

Investment in future sales...

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ALUMINUM
ALCOA CLOSURES
FORMERLY SOLD AS ALSECO SEALS

Glenmore Distilleries Company helps build future sales by protecting its fine Kentucky Tavern Whiskey with Alcoa Pilferproof Closures. Alcoa Closures give double protection; prevent pilfering, provide hermetic sealing. And can be used as a tight reclosure.

Alcoa Pilferproof Closures are produced plain or colored, embossed or lithographed. They can be applied at speeds up to 300 per minute with Alseco Sealing Machines. Write for our free catalog. ALUMINUM COMPANY OF AMERICA, 1705A Gulf Building, Pittsburgh 19, Pennsylvania.

Because rearmament needs for aluminum must be served first, you may have to wait for Alcoa Closures. Your nearby Alcoa sales office can give you information about all types of Alcoa Closures and availabilities.

How Alcoa Pilferproof Closures Reveal Tampering

Alcoa Pilferproof Closures cannot be opened without giving evidence of tampering. The locking band, attached to the cap by small metal bridges,

remains on the bottle after the cap is removed. Each Alcoa Closure is *tailor-made* — threads are rolled on and formed by the contours of the bottle it seals.

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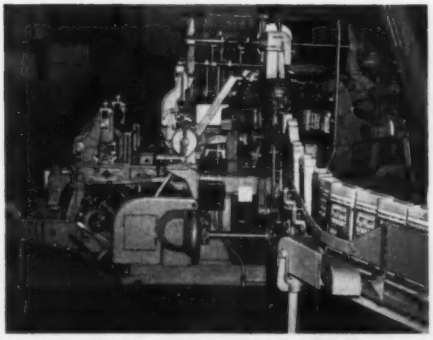
When you see that

QUAKER smile

you're looking at another

PNEUMATIC-MADE

PACKAGE



One of several Pneumatic Large Double Package Makers in operation at the huge Quaker Oats mill in Cedar Rapids, Iowa.

Some people like to buy their cereal in large packages—others prefer the small, single portion size. Quaker gives them almost any kind they want, any way they want it — with an assist from Pneumatic machines.

In Quaker's case they use Pneumatic's Double Package Maker equipment for a number of their famed breakfast foods—because flavorsome cereals call for the extra protection of the "package within a package" these machines make possible. The extent to which other leading producers of packaged goods use Pneumatic machines leaves no doubt that Pneumatic is industry's No. 1 choice—because of smoother, trouble free, "lower cost per container" performance.

PNEUMATIC SCALE CORP., LTD., 82 Newport Ave., Quincy 71, Mass. *Branch Offices: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.*

PNEUMATIC **PACKAGING AND BOTTLING MACHINERY**

Again...BBD makes Aniline Ink NEWS with a new multi-purpose ink for every type of cellophane...foil...other specialty stocks

Here at last, for the printer of cellophane, foil and other specialty stocks, is a *multi-purpose* aniline ink that puts an end to the problem of special inks for every different type of stock.

With BBD's new *multi-purpose* "*400 Series*" 100% pigmented EXCELLOPAKE INK, you are able to maintain lower ink inventory... cut down "left-over" losses... eliminate errors and lost motion that result from stocking many types of inks... increase production by switching runs from one stock to another without cleaning fountains or changing ink. And that's not all — this new kind of BBD ink also gives you cleaner, sharper, glossier prints... stronger adhesion... and improved performance on press.

The "*400 Series*" *Excellopake Ink* has been exhaustively field-tested by leading aniline printers for the last year, and has successfully met their most critical specifications in actual production runs. Check the 7-point list below and see why it will meet your requirements too.

BBD's *400 Series* ANILINE INK scores on all 7 points

- **MULTI-PURPOSE** ..... use it for every type of cellophane, foil, specialty paper
- **STRONGER ADHESION** ..passes both crinkle, scratch and Scotch Tape tests with flying colors
- **COLOR-STABILIZED** .....brilliant, richer, glossier... doesn't precipitate when diluted... remains stable in storage
- **SELF-SOLUBLE** .....cleans itself from plates and rollers with every revolution to give you cleaner, sharper impressions
- **FAST-DRYING** .....doesn't fill in or offset at running speeds up to 475 feet per minute
- **NON-BLOCKING** .....at temperatures up to 130° F., both ink-to-ink and ink-to-stock
- **NON-BLEEDING** .....in water, wax, grease and overprint varnishes

This revolutionary new BBD ink is available in full range of standard and special colors

• For more information and printed samples, contact your nearest BBD office... or request "*400 Series*" descriptive circular from

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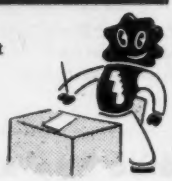

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Manufactured Under Pat. No. 2,515,093
Other Patents Pending
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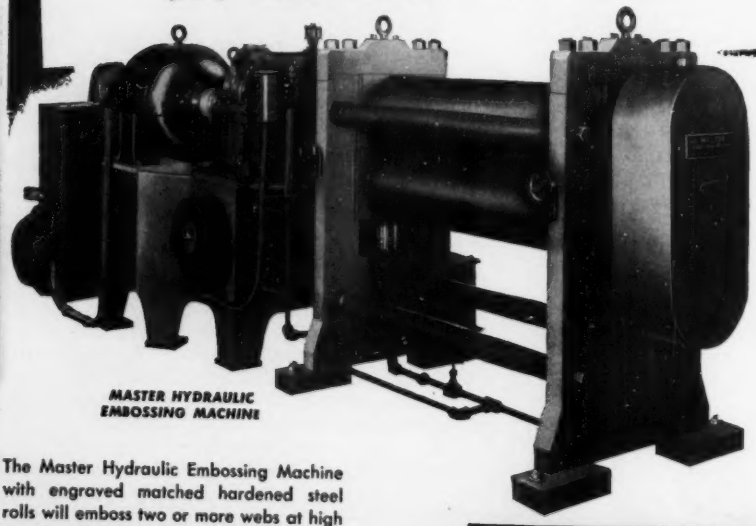
Polyethylene
Plastic Bottle
This is *the* bottle with consumer appeals so strong they actually help sell your product!
It's unbreakable—a powerful consumer selling point on safety and thriftiness.
It's lightweight—takes up less space (and incidentally cuts your shipping cost).
It's a "squeeze bottle"—can be readily adapted to use as a stream—as a spray—as a sprinkler finish.
Our stock bottle is available in 1—2—4—8 ounce sizes. Through a special printing process we can print your label or design right on the bottle.
In addition to the production of this stock bottle and stock closure, we also custom make other thermoplastic bottles, closures and atomizers. You can depend upon their being made with the same high standards of craftsmanship which keynote all Mills plastic products.
For more information on our custom molding service, or for a free sample bottle, write us or our sales agent today.
ELMER E. MILLS CORPORATION
2930 N. Ashland Ave., Chicago 13, Illinois
Sales Agent: W. BRAUN & COMPANY
Chicago, 300 N. Canal St. New York, 595 Fifth Ave.

"The Greatest Development in the History of Embossing"

MASTER *Hydraulic* EMBOSSING MACHINE

WITH ENGRAVED *Matched Hardened* STEEL ROLLS

The new high-speed method of embossing that will emboss up to 1,000 feet per minute producing day after day, year after year, uniform high quality embossing not duplicated by any other method or machine.



MASTER HYDRAULIC EMBOSSING MACHINE

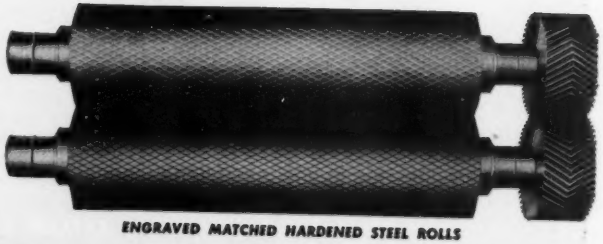
HIGH SPEED

UNIFORM EMBOSSING

FINER QUALITY

LOWER COST

The Master Hydraulic Embossing Machine with engraved matched hardened steel rolls will emboss two or more webs at high speed and produce a uniform pattern not heretofore possible, reduces scrap and eliminates lost production due to fractures in paper filled backup rolls caused by splices and material variation; will likewise eliminate costly backup roll repairs and replacement.



ENGRAVED MATCHED HARDENED STEEL ROLLS

Get the Facts NOW!

MODERN ENGRAVING & MACHINE CO.

1413 CHESTNUT AVE., HILLSIDE 5, NEW JERSEY

Teamwork with carton buyers...over the years...

developing and producing the finest in cartons.

CHICAGO CARTON COMPANY

CHICAGO CARTON COMPANY

4200 SOUTH CRAWFORD AVENUE • CHICAGO 32, ILLINOIS

FOLDING CARTONS • PLAIN • PRINTED • LAMINATED • PARAFFINED

double hand labeling production

without expensive equipment investment

THE NEW AVERY ELECTRIC LABEL DISPENSER, combined with Kum-Kleen pressure-sensitive labels, doubles your hand labeling production without expensive equipment costs. Kum-Kleen labels, on 'conveyer-belt' rolls, feed through the electric dispenser as fast as they can be applied by the operator. Waste motion of handling and sorting loose labels is completely eliminated. The dispenser is small, compact, and fits into any production line. Simple in design, efficient in operation, it can be operated by unskilled help.

Avery pressure-sensitive Kum-Kleen labels can be applied to any smooth surface without moistening. They stick-and-stay-stuck, do not pop, peel or curl, even under extremes of heat and humidity. Kum-Kleen labels also eliminate inefficient, sticky fingers, messy labels and soiled packages.

If you're having problems with such hard-to-label surfaces as cellophane, pliofilm, polyethylene, glass, metal, plastics, varnished wood, etc., send for information and samples of Kum-Kleen labels. They can be produced to your specifications... to dramatize *your* package... and *double your hand labeling production.*

Kum-Kleen®

AVERY ADHESIVE LABEL CORPORATION

NEW YORK CITY: 41 Park Row
DETROIT: 3049 East Grand Boulevard
CLEVELAND: 2123 East 9th Street
PHILADELPHIA: 1069 Commercial Trust Building
CHICAGO: 608 South Dearborn Street
MONROVIA, California

Representatives In All Principal Cities

SPECIFICATION BARRIER MATERIALS

Designed Specifically to Meet Government Packaging Specifications

JAN B•121–Barrier Materials–Greaseproof
P•117–Bags–Interior Packaging

Manufacturers engaged in packaging which must conform to Joint Army-Navy (JAN) Specifications will find the following chart of considerable value. The Loxol* materials it lists, when handled according to instructions, unqualifiedly meet the indicated JAN Specifications.

LOXOL · Polyethylene on Kraft

SPECIFICATION	MATERIAL	DESCRIPTION
JAN-B-121 Grade A Type I Class 1	ARCTIC PAK I (flat)	A wrap consisting of polyethylene hot melted to neutral Kraft. For hand wrapping of small parts. Flexible to 65° below zero.
JAN-B-121 Grade A Type I Class 1	ARCTIC PAK I (creped)	A moldable, creped wrap (with 15% stretch) consisting of polyethylene hot melted to neutral Kraft. Easily formed to follow almost any shape closely. Flexible to 65° below zero.
JAN-P-117 Grade A Types I and II Classes a, b, c	PENGUIN PAK	A polyethylene coated neutral Kraft designed for fabrication by heat sealing into bags, pouches, and envelopes to meet the JAN specification. Flexible in temperatures to 65° below zero. Also highly resistant to synthetic hydraulic oils.

LAMINATE on Kraft

SPECIFICATION	MATERIAL	DESCRIPTION
JAN-B-121 Grade A Types I and II Class 1	LAMINE I and II	A wrap consisting of a sheet of glassine paper securely laminated to a sheet of neutral Kraft. Highly grease resistant for wrapping of oily metal parts. Also excellent material for fabrication into glued bags, pouches, and envelopes.

Arctic Pak and Lamine are available from stock for immediate delivery in rolls 36" wide. The rolls contain 200 yards each except in the case of Arctic Pak I creped, which comes in 100 yard rolls.

Since Penguin Pak requires a specified type of fabrication, it is sold only to fabricators. A list of fabricators who supply bags and other containers made of this material will be sent you on request.

Penguin Pak, Arctic Pak, flat and creped, are made by the exclusive LOXOL PROCESS which hot melts polyethylene to paper. LOXOL is readily heat sealable and retains both strength and flexibility over a wide temperature range.

Sample sheets which include detailed specifications are yours for the asking.

SPECIAL NOTE:
Distributorships for these materials are open for certain valuable territories. Write for more information.

*T.M. Reg.

Salesmen • ON THE SHELF!

• • • variety of sizes

• • • economical and practical

• • • beauty of design and color

Quality OLIVE CAN COMPANY Service
MANUFACTURERS • DESIGNERS
PLAIN • DECORATED • LITHOGRAPHED
METAL CONTAINERS
450 N. LEAVITT ST., CHICAGO 12, ILLINOIS

BALANCE

➡ Is The Key To Outstanding Wax Performance!

Sealing Strength

Hardness

Gloss

Blocking Resistance

Sealing Strength, Hardness, Gloss, Blocking Resistance — These are the qualities you demand of paper coated with unmodified paraffin wax.

ONLY WITH A PROPER BALANCE OF SPECIFICATIONS can you obtain these qualities!

SPECIFICATION BALANCE of each ingredient is also necessary in Polythene — Microcrystalline — Paraffin mixtures for the New Mirror Gloss Coatings. Best all-around performance demands it!

MOORE & MUNGER SPECIFICATIONS
Mean Perfection in
Paraffin Wax
Microcrystalline Wax
Polythene Concentrates

* **Mamspec**

Moore & Munger—33 Rector Street New York 6

*TRADE MARK

From Sewing Machines

To Silverware

OXFORD PAPERS

HELP BUILD SALES

WHEN YOU choose the *right* paper for any printing job you add extra quality to the fine art and typography which carry your selling message. That's why Oxford Papers can help you to increase sales for sewing machines, silverware, or any other product, because they add greater effectiveness to the printed material you produce or buy. There is an Oxford coated or uncoated grade to meet your every requirement—each one is produced with all the skill and craftsmanship inherent in over fifty years of fine paper making experience. Specify Oxford for your next brochure, label, box-wrap, catalogue or direct mail piece, and see for yourself how much you save from finer press performance—how much you gain from Oxford quality.

Oxford Papers Are Good Papers to Know

Whether the job calls for letterpress, offset, lithography, or rotogravure, you can be sure of an Oxford grade that's right for *your* needs—right in printability, right in pressroom economies. Here are six Oxford grades it pays to remember—and use:

POLAR SUPERFINE ENAMEL
•
MAINEFOLD ENAMEL
•
ENGRAVATONE COATED

MAINEFLEX ENAMEL
•
CARFAX ENGLISH FINISH
•
DUPLEX LABEL

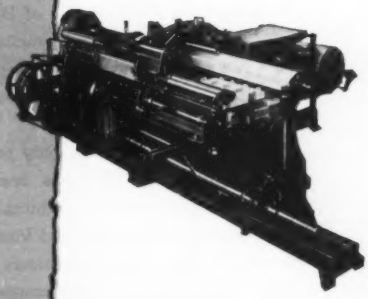
★ ★ ★

Your Oxford Paper Merchant Is a Good Man to Know

The service of your Oxford Paper Merchant is as dependable as the fine papers he carries—and you can find it a practical help in your business, too. He knows paper, to be sure, and makes a business of prompt service. In addition, his experience with the problems of paper users can often spark suggestions that can save you time, worry and dollars as well. There is an Oxford Paper Merchant near you in any of 68 principal cities from coast to coast. Get in touch with him today and ask for a copy of the helpful Oxford Paper Selector Chart, or write direct to us.

Oxford Paper Company
230 Park Avenue, New York 17, N. Y.
Oxford Miami Paper Company
35 East Wacker Drive, Chicago 1, Ill.
•
MILLS AT RUMFORD, MAINE AND WEST CARROLLTON, OHIO

PAPER WOUND CANS FAVORED TO REDUCE OVERALL COSTS



The number of products shipped and marketed in Knowlton Convolute Wound Paper Cans is constantly increasing. Tests and comparisons show convolute wound paper cans are strong—and can stand unusually high pressures. At the same time, these containers cost less to produce and less to ship. Up to 150 can bodies per minute with single or multiple labeling from 1 to 5 labels per cycle can be turned out on the Knowlton Convolute Paper Can Winder— operates continuously on wide variety of shapes from 1¾" to 8" diameter or across diagonals. Let us show you how the Convolute Paper Can Winder will fit in your business.

A KNOWLTON MACHINE FOR EVERY NEED

SET-UP BOX

Single & Double Scorers
Single and double rotary creasers and cutters
Single and double corner cutters
Single stayers (All sizes)
Universal Coverers, Power (All sizes)
Hand Power Coverers (All sizes)
Bench Coverers
Toppers (All sizes)
Slitters and Rewinders
Flange Benders (Automatic)
Glue Pots

PAPER TUBE & CAN

Automatic Convolute Paper Can Winders
Spiral Winder (Light and Heavy Wall)
Spiral Cut-offs
Tube Recutters
Lap Tube Rollers

SHIPPING CONTAINER

Rotary Slitters & Creasers
Heavy Vertical Slotters
Heavy Bar Creasers
Paraffine Coaters

GUMMED STAY PAPERS

Gray, Brown, and White

BOSTON 637 Massachusetts Ave. (ARLINGTON) | M. D. Knowlton Company | BROOKLYN 45-53 Degraw St. | CHICAGO 9 S. Clinton St. | TORONTO, CAN. 380 Richmond St., W.

Pacific Coast Representatives: N. W. BRINTNALL CO. Los Angeles, San Francisco, Seattle

ROCHESTER, NEW YORK

180 points on packaging

Pictured here are 15 dozen of Blaisdell Pencil Company's finest pencils, with each of their 180 points well protected by inner and outer set-up boxes made by Miller.

Packaging like this not only protects but permanently identifies many of America's outstanding products. Both functions . . . protection and identification . . . are as essential in times of national emergency as when competition rules supreme.

Whether your product is destined for civilian or military use, or both, you'll find Miller service helpful. For packaging *ideas* as well as for delivery estimates, get in touch with your Miller representative!

Blaisdell Pencil Company uses Miller-made set-up boxes for both inner and outer containers.

For greater Protection, consult a Boxing Champ

WALTER P. MILLER COMPANY, INC.
452 YORK AVENUE, PHILADELPHIA 23, PA.

Designers and manufacturers of SET-UP PAPER BOXES

BECK

boosts converter's rewinding speed 20-25%

"Since installing your Slitters, we find that we are getting better and more uniformly rewound rolls and that our rewinding speed has increased 20 to 25 percent. We also find that roll changes are made in considerably less time than on the previous slitter we used. We expect to be in the market for another of your machines [*a fourth*] in the near future."

That's BECK RAZOR BLADE SLITTER AND REWINDER performance for one cellophane and aluminum foil converter.

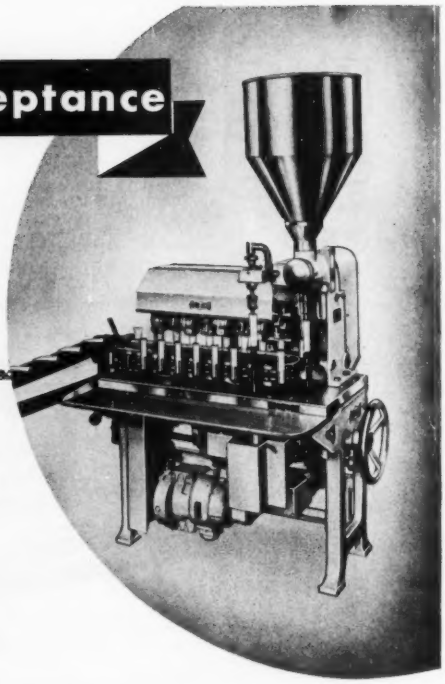
That's what a BECK SLITTER can do for *you*, too! It's a compact, packaged unit for accurate, high-volume slitting and rewinding of all your fine materials. It's a dependable, economical machine that switches production problems into profits by producing more rewound rolls faster, for less. Details? They're all in the BECK SLITTER Catalog and they're yours for the asking. Get your Catalog *now*.

CHARLES BECK MACHINE CORPORATION
406 NORTH 13th STREET PHILADELPHIA 8, PENNA.

ARENCO World Wide Acceptance

only stainless steel or resistant metals contact materials being filled.

automatic tube cleaning and cap tightening . . . in a single station



fills tubes, jars, small vials easily adjusts from 1cc to 180cc

usable for water-thin fluids to heavy non-flowing compounds

Arenco tube filler meets your production requirements *Best*

For greatest accuracy and high filling speed and efficiency, you can select no better tube filler for your product than an Arenco. The experience of hundreds of users in all parts of the world proves beyond a doubt that the Arenco Tube Filler outperforms all others—regardless of the product being filled.

Size and material changeovers take only moments—not hours. And the Arenco will fill most products at speeds up to 55 tubes per minute.

An automatic coding device is built into each Arenco. What's more, this outstanding tube filler lets you use either single, double or triple folded clipless closures.

If you're filling collapsible tubes of any size, you need to know about the Arenco. Write the nearest office for full details.

JAR FILLING ATTACHMENT

Quickly converts your Arenco into an accurate high speed jar filling machine.

The Heart of the Arenco Tube Filler

One of the big reasons for the Arenco's superior performance is to be found in its single cylinder stainless steel pump. . . . This pump both meters *and* fills. It's precision machined—there's nothing that will destroy filling accuracy or contaminate your products.

Service

The same organization which services 2,000 other Arenco machines in all parts of the country is available to service your Arenco Tube Filler. Competent mechanics. Complete stock of spare parts always on hand.

ARENCO Machine Co.
INCORPORATED
25 West 43rd Street, New York 18, N. Y.

Representatives:

R. P. Anderson Co.
317 Texas Bank Bldg.
Dallas 2, Texas

Mr. H. Lyle Greene
185 North Wabash Ave.
Chicago 1, Ill.

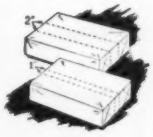
King & Anderson
1355 Market St.
San Francisco 3, Calif.

Tom Aicklay
P. O. Box #14
Port Deposit, Md.

Packaging Equipment, Inc.
2013 Olive St.
St. Louis 3, Mo.

Some simple ways to make your Cellophane supply go further

Saving inches of Cellophane can add up to substantial packaging economy. If you're using Cellophane, here are a few suggestions that might help you stretch film supplies, and cut packaging costs, too.



MEASURE THE MACHINE CUTOFF— excessive overlap is a common source of waste. Reducing the cutoff one inch on a 9" x 6" x 1" package, means that 263 additional packages can be wrapped from a 33-pound roll.

CHECK WIDTH OF ROLL USED, especially if you've made even a minor change in your product or package. As a result of adopting end seals on a bread package, for example, roll width can be cut as much as one inch. On a 15" roll of film, this would save one roll for every 15 used.

CONSIDER MODIFYING SHAPE OF PACKAGE to save film. For instance, a 4" x 10" x 2" tray holds as much candy as an 8" x 10" x 1" tray, but reduces the wrapper size up to 25%.

INVESTIGATE HANDLING OF STUB ROLLS. Usable film is sometimes carelessly discarded—after a production break, for instance. Employee education on this and other points can help eliminate waste, and save film that would have made many more packages.

Proper Cellophane Storage and Handling Eliminate Waste

- √ Be sure storage room is clean, dry, with a moderate temperature.
- √ Keep film in original protective containers.
- √ Stand cylindrical containers on end.
- √ Stack shipping cartons in *low* piles to avoid pressure at bottom.
- √ Store sheets not over 12 bundles high.
- √ Clean packaging machine regularly.
- √ Keep sealing plates at proper temperature.
- √ Check tucker arm adjustment.
- √ Use side plates, if necessary, to keep Cellophane from "side-slipping."
- √ Be sure film is properly conditioned to wrapping-room temperature before being run.
- √ Remove Cellophane rolls at end of each day and rewrap.
- √ Avoid damage to edges by never standing uncased rolls on end.

You, of course, are the best judge of how to effect economies and save film in your packaging operation. To assist you in every way possible, your Du Pont representative will be glad to study your particular operation, and recommend economy steps that might be taken. E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.

DuPont Cellophane

Shows what it protects—protects what it shows

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

More packaged beer at less cost

from the same bottling line

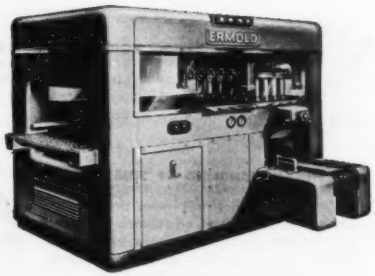
More — Because it's gentle — The Ermold *Automatic* Unpacker handles bottles gently, thus minimizes hidden damage to glass . . . cuts rejects or broken bottles at the end of the line . . . reduces stoppages. As a result, the highly efficient Unpacker makes possible more finished packages.

Less cost because it is easy to operate and maintain. Ermold Automatic Unpacker starts and stops automatically to keep the washer loader filled . . . resulting in more continuous production.

Safe — Fully automatic safety devices not only protect employees, but also prevent damage to bottles, cases and the machine itself.

Fast and flexible — The Ermold Unpacker automatically loads washers up to 12 cases per minute. Accepts all split to quart standard beverage and beer bottles in full or half depth wooden and two or four flap fibre or corrugated cases . . . with or without inner cartons. The efficient Unpacker can be installed in any position at the washer . . . or away from it, if space is limited.

ERMOLD AUTOMATIC UNPACKER



Find Out how you can boost production from your present bottling lines and reduce bottle breakage with the Ermold *Automatic* Unpacker. Ask your Ermold representative for a detailed analysis of your operation. Write or call today.

EDWARD ERMOLD COMPANY

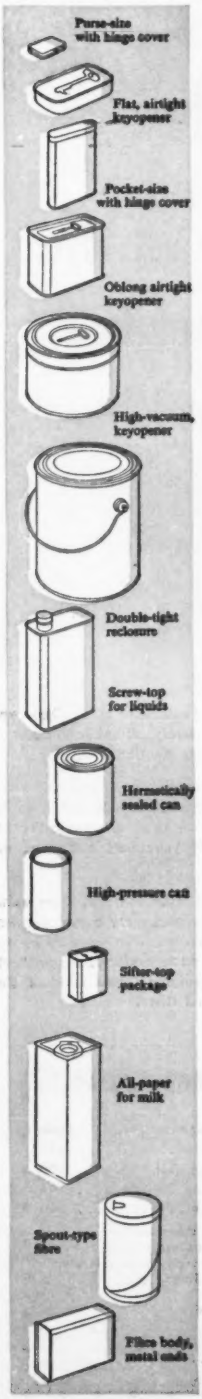
652 HUDSON STREET, NEW YORK 14, N. Y.

OFFICES: BOSTON • CHICAGO • CLEVELAND • LOS ANGELES • MONTREAL • ST. LOUIS • SAN FRANCISCO • TORONTO • MEXICO • CUBA • ENGLAND

FOUNDED 1880 • *Famed for Labeling Leadership for 70 Years* • INCORPORATED 1911

EE138

WHICH PACKAGE SUITS YOUR PRODUCT?



This familiar oblong container comes with either a screw-top or u-press-it fitting. Also available in a variety of sizes with pouring spout, seal closure *and many other types of fittings for consumer convenience.*

Are you considering the consumer when you package liquids?

This container makes friends—keeps 'em!

You know it as the handy can that pours easy, doesn't drip and closes tight.

Advertising experts and sales managers know it as the package that "works with" the label—plenty of space to show your brand in brilliant color.

It now helps sell such products as linseed oil, turpentine, paint and varnish remover, maple syrup, honey.

It could easily do the same robust selling job for liquid detergents, liquid wax or olive oil.

Brass? Silver?

And how about brass or silver polish, glass cleaners?

To sum up, *this container is ideal for many liquids where positive reclosure is essential.*

Don't you think your package-development experts should get together with ours?

Since 1901 Canco has been responsible for just about every important development in the packaging industry—food and non-food products alike—involving an infinite variety of containers that are metal, fibre or a combination of both.

Let Canco help *you* in designing labels, cutting costs, building sales and advising on packaging, processing, filling and closing.

For prompt help in production-line emergencies, and containers in any quantity when you need them, take our advice and *call Canco first!*

AMERICAN CAN CO.

CANCO

NEW YORK CHICAGO SAN FRANCISCO HAMILTON

Want **maximum** advertising results?

...then reserve space now in the Annual Packaging Show Number of MODERN PACKAGING (April Issue)

April is "action month" for packaging men everywhere. An army of them will attend the American Management Association's 20th National Packaging Exposition at Atlantic City (April 17-20). The Show is already assured of more exhibitors than ever before in the history of the event.

If you're a supplier of the packaging field, then you are naturally planning an all-out sales effort for April. Your advertising message in the April "Show Issue" of Modern Packaging provides a powerful multi-pronged sales attack that exactly fits the month's promotional strategy. It actually helps you sell *before, during* and *after* the Show:

1. It gets your selling story across not only to those attending the Show, but to many "stay-at-homes" as well.

2. It reaches packagers at just the right time for greatest effectiveness. They'll get the April issue right before the Show—exactly when their interest in its special editorial features and advertisements will have primary interest for them.

3. If you are exhibiting at the Show, your ad will efficiently stimulate interest in, and attendance at, your booth.

4. If you are not exhibiting, the April Issue will serve as a mobile exhibition hall that can deliver your sales story direct to the desks of your best customers and prospects.

5. The April issue has post-Show value, too. It helps packagers make decisions after they have seen the Show by serving as a permanent reminder of the products, materials, equipment and services that were exhibited there.

RESERVE SPACE NOW -- USE THIS COUPON

As usual, since good advertising locations in the Show Issue are in great demand, positions will be assigned in the order that reservations are received. That's why it's wise to place your order for space early. Just fill out and mail the coupon today.

MODERN PACKAGING
122 E. 42nd St., New York 17, N. Y.

Gentlemen:
Please reserve .... page for our advertising message in the April issue of MODERN PACKAGING. Copy will be supplied prior to the closing date, March 5, 1951.
Date ....., 1951

One page	**$340**
2/3 page	**255**
½ page	**200**
1/3 page	**145**
¼ page	**110**

*Figures shown are one-time rates. Lower contract rates apply to advertisers using regular schedules in Modern Packaging.

Name ..... **Title** .....
Company .....
Address .....
City ..... **Zone** ..... **State** .....

lifelike sales appeal....positive product protection

it's Milprint Rotogravure

★ **THE PROBLEM:**
To create a bag which would protect potato chips against harmful light rays with no sacrifice of sales appeal.

★ **THE SOLUTION BY MILPRINT:**
A duplex glassine bag — waxed two sides — printed all-over for life-like realism in five-color roto-gravure.

SHOWS THE CHIPS the way they should be shown. Vivid, full-color reproduction fairly sings with "good-as-life" appetite appeal . . . a warm invitation to buy.

HIDES THE CHIPS for better flavor. Light's sealed out . . . flavor's locked in! Positive protection with two layers of opaque glassine . . . plus opaque printing.

KEEPS CHIPS CRISP . . . fresh! Moisture-proof coating, double wall construction help deliver the chips to the consumer fresh as the day they were made.

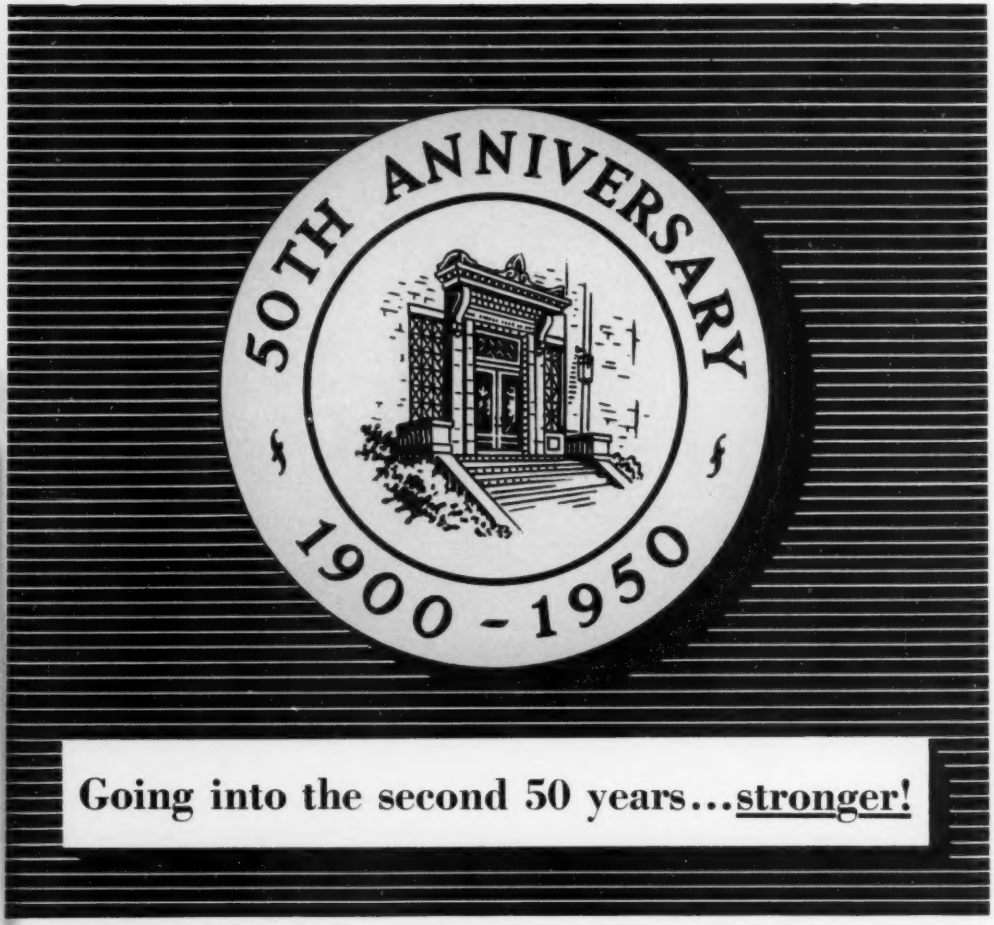
This is another example which shows why it pays to look to Milprint for truly progressive packaging. Milprint offers you the widest selection of materials and printing processes as well as designers and merchandisers who know *your* particular field. It's only natural that Milprint packages write their own success stories. Call your Milprint man today.

Milprint INC

GENERAL OFFICES: MILWAUKEE, WISCONSIN
SALES OFFICES IN PRINCIPAL CITIES

Some packaging materials are on strict allocation by our suppliers. Milprint's policy is to distribute such materials fairly and equitably among our loyal customers first. Government orders for defense will naturally receive all necessary priority. Consult your Milprint man regarding possible substitute materials and latest information on the supply situation — no obligation.

Printed Cellophane, Pliofilm, Polyethylene, Acetate, Glassine, Foils, Folding Cartons, Lithographed Displays, Printed Promotional Material.



Going into the second 50 years...stronger!

This year, Gardner goes into its second half-century with a tremendous backlog of experience . . . with expanded plants and facilities . . . and, more important, with a personnel that believes there is no limit to Gardner's achievement.

So, for the *next* fifty years . . . and the next, and the next . . . we will strive to make the good *better*, and the better *best*. As long as that spirit is kept alive, you may be sure of Gardner as a dependable source of quality boxboard and cartons. And you may be sure we will do our best to keep that spirit alive.

THE GARDNER BOARD AND CARTON CO.

Manufacturers of Folding Cartons and Boxboard, Middletown, Ohio

SALES OFFICES IN BOSTON, CHICAGO, CLEVELAND, NEW YORK, PHILADELPHIA, PITTSBURGH, ST. LOUIS

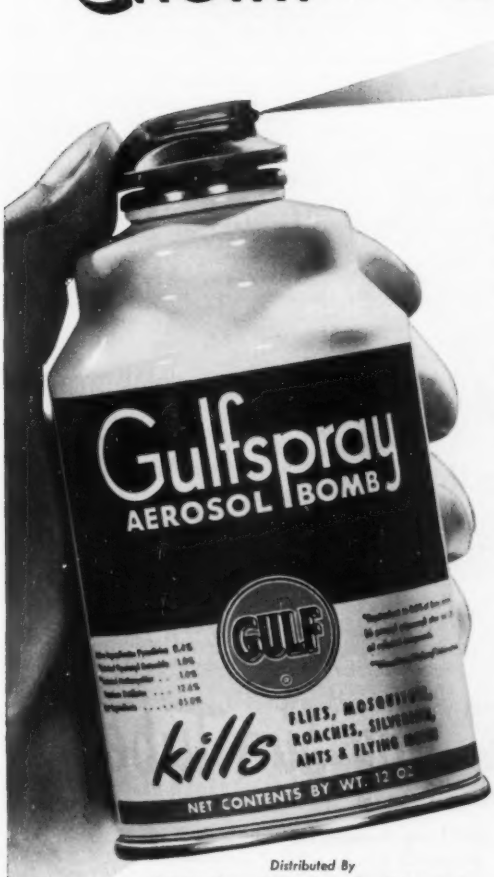
Gulfspray Kills Ants and Roaches

Gulfspray Kills Flies and Mosquitos

Gulfspray Kills Flying Moths

ANOTHER FAMOUS PRODUCT SELLS BETTER IN

CROWN SPRA-TAINER



Distributed By
Gulf Oil Corp.—Gulf Refining Co., Pittsburgh, Pa.

GULFSPRAY INSECTICIDES

GULFSPRAY AEROSOL Insecticide is packed under pressure in dependable Crown Spra-tainers. At the touch of a thumb, Gulfspray is mist-ified in air with finest dispersion for maximum results, minimum waste. Gulfspray *plus* Crown Spra-tainer combine the ultimate in sales-getting advantages: Product *Efficiency*, *Convenience*, and *Economy*.

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If you're sending out samples...or packing your product in individual servings or doses...you'll find Unitainers give you important advantages (described below). Plus the proven superiorities that are built into *all* Sun Tubes. Well worth investigating!

For further information about Sun Tubes—Unitainers, or standard size tubes of lead and tin or aluminum—phone or write our home office or nearest representative. Remember, Sun Tubes cost no more than other quality tubes!

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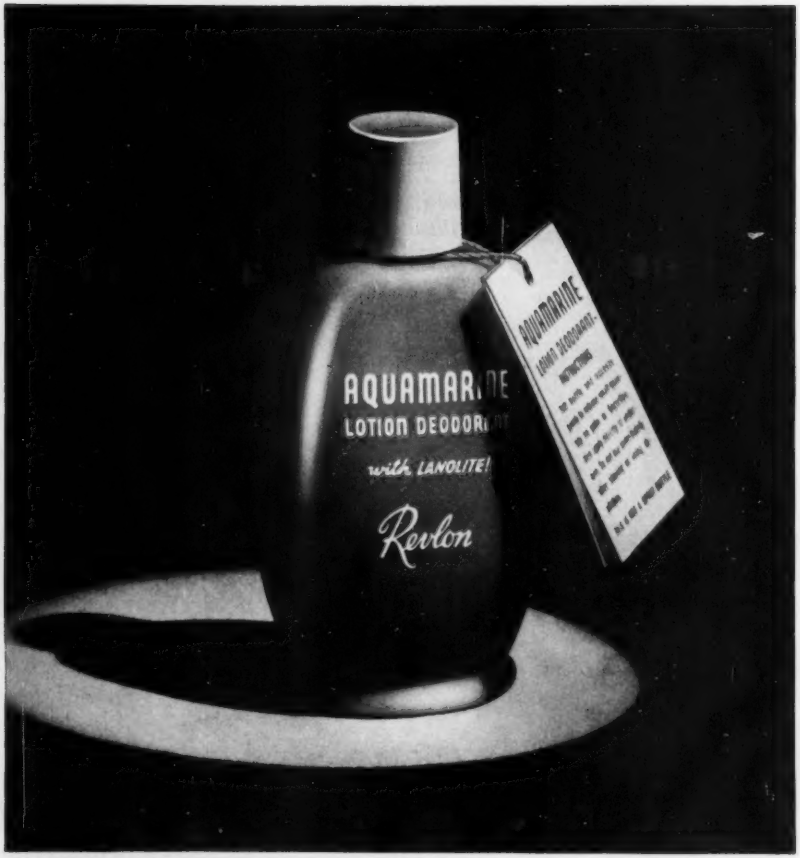

For Revlon

the choice is a trim Plaxpak bottle for Aquamarine Lotion Deodorant. Fingertip pressure on the colorful bottle releases exactly the desired amount of lotion. Controlled dispensing — an inherent feature of the Plaxpak bottle — is but one of many advantages. It is also light in weight, nice to the touch and smashproof. Color and decorative possibilities are unlimited. In the Plaxpak bottle, you have unique qualities to stimulate buying and to foster increased product use.

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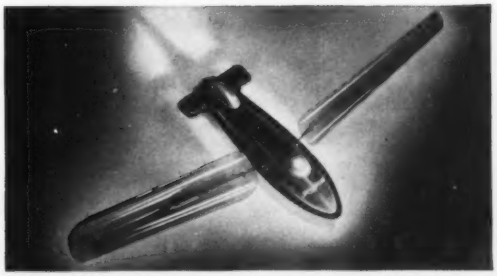
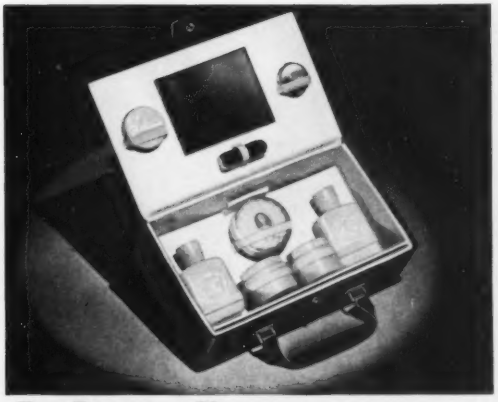
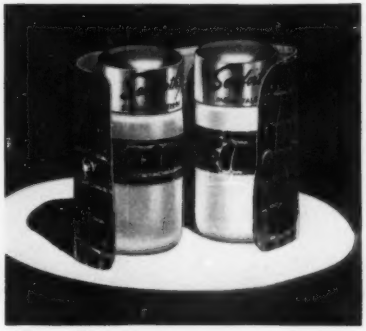
For Courtley an embossed, flask-shaped Plaxpak bottle provides a handy, handsome, lightweight container for Antiseptic Body Powder. A quick squeeze produces a fine powder spray.



For Youngsters this sleek but tough airplane of Plax Polyflex* means hours and hours of outdoor fun. Polyflex is oriented polystyrene sheet — strong, easy to work, and low in cost.



For Richard Hudnut's fitted case, two light pink Plaxpak bottles provide attractive containers for Du Barry Skin Freshener and Foundation Cream. Fitted cases are smarter, lighter and more convenient with Plaxpak bottles.



For Seaforth Plaxpak bottles form a compact traveler's twosome. Light and smash-proof, the kit can be squashed into a suitcase and hauled anywhere that duty calls. Kit has Seaforth Shaving Lotion and Men's Talc.

good enough

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HELPFUL PLAX LITERATURE
Catalogs on Plaxpak bottles and other Plax products are available on request. Also available is a booklet "Fabrication of Polystyrene."

Plax blow-molded products are made under the following U. S. Pats.: 2128239, 2175053, 2175054, 2230188, 2230190, 2260750, 2283751, 2349176, 2349177, 2349178. *Reg. U.S. Pat. Off.

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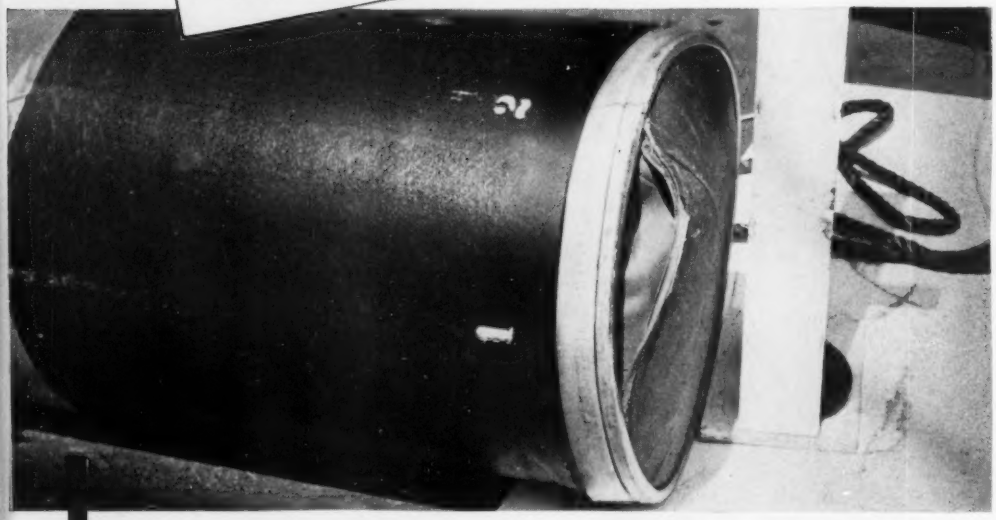
it's VISQUEEN*



A close-up of an FPEB drum-package dropped twice from a height of two feet on its bottom chime, at an angle of approximately 45 degrees. Although the fibre bottom pulled out of the metal chime, the envelope —made of VISQUEEN—did not leak.

Development of the Rohm & Haas FPEB drum-package introduces an entirely new concept into liquid shipping. Basically the FPEB drum-package is a specially constructed fiber drum with a separate VISQUEEN liner and a "boot," thoroughly tested to be satisfactory under normal handling abuse, 50 to 75% lighter than alternative containers.

It's another of the jobs that VISQUEEN *film does best!*

HERE'S WHY: VISQUEEN film has exceptionally high tensile strength and tear resistance . . . yet always remains flexible and uniform. Clear, odorless, tasteless and impervious—VISQUEEN is chemically inert, unaffected by acids or alkalis.

Regardless of what YOU ship (liquids, semi-liquids or solids) or where YOU ship, or how YOU ship (in fibre drums, cartons or metal containers) . . . it's almost certain that VISQUEEN film liners will save you money, save you time and save you handling!

*T. M. VISKING CORPORATION †FPEB is the designation for Rohm & Haas' Visqueen-lined drum package with boot.

competitive polyethylene film . . .

liners for Rohm & Haas' revolutionary FPEB† drum-package!

VISQUEEN envelope and VISQUEEN sealing disc are photographed with the other component parts of the FPEB drum package. The assembled unit—effected by mandrelling—has been proved capable of carrying 400 lbs. of liquids successfully under all kinds of normal handling abuse.

Ready for filling with 400 lbs. of nonflammable, noncorrosive liquid is this completely assembled FPEB drum-package. Note how the VISQUEEN envelope overlays the top chime of the drum. Complete product protection is provided by the top sealing disc, which is also made of VISQUEEN.

VISQUEEN film is all polyethylene, but all polyethylene film is not VISQUEEN. VISQUEEN is the only film produced by the process covered by U. S. Patent No. 2461975. Only VISQUEEN film has the benefit of the research and extensive technical experience of The Visking Corporation, pioneers in the development of polyethylene film. Be sure. Always specify VISQUEEN film for superior tear and tensile strength and greater uniformity.

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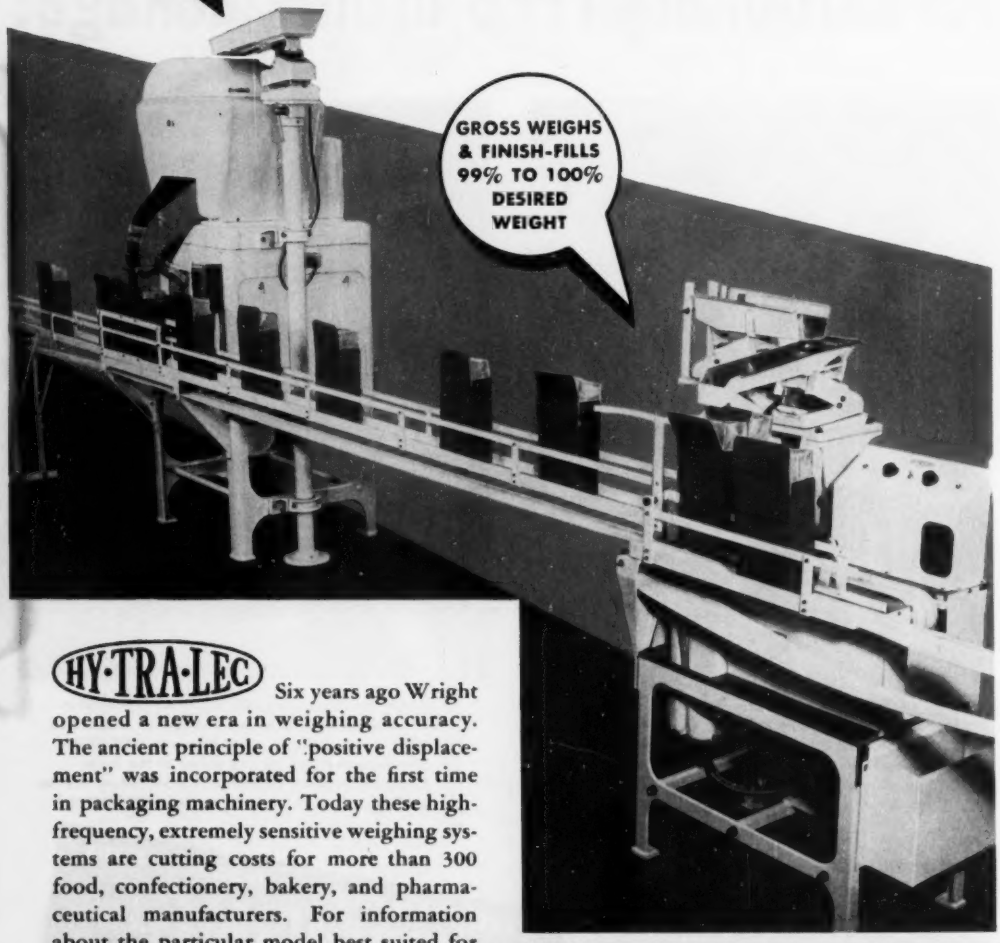

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PEORIA, ILL.	The Central Paper Co.
PHILADELPHIA, PENN.	Peoria Paper House, Inc.
	Garrett-Buchanan Co.
	Matthias Paper Corp.*
	Paper Merchants, Inc.
	Whiting-Patterson Co., Inc.
PHOENIX, ARIZONA	Carpenter Paper Co.
PITTSBURGH, PENN.	The Whitaker Paper Co.
POCATELLO, IDAHO	Carpenter Paper Co.
PORTLAND, ORE.	Carter, Rice & Co. of Oregon
PROVIDENCE, R. I.	John Carter & Co., Inc.†
QUINCY, ILL.	Irwin Paper Co.
RALEIGH, N. C.	Epes-Fitzgerald Paper Co.
READING, PENN.	Garrett-Buchanan Co.
RICHMOND, VA.	Epes-Fitzgerald Paper Co.
ROCHESTER, N. Y.	Hubbs and Howe Co.
	Paper Service, Inc.
SACRAMENTO, CALIF.	Carpenter Paper Co.
ST. LOUIS, MO.	Acme Paper Co.
	Shaughnessy-Kniep-Hawe Paper Co.
ST. PAUL, MINN.	Inter-City Paper Co.
SALT LAKE CITY, UTAH	Carpenter Paper Co.
SAN ANTONIO, TEXAS	Carpenter Paper Co.
SAN FRANCISCO, CALIF.	Carpenter Paper Co.
SAVANNAH, GA.	The Atlantic Paper Co.
SEATTLE, WASH.	Carter, Rice and Co.
SIOUX CITY, IOWA	Carpenter Paper Co.
SIOUX FALLS, S. D.	Sioux Falls Paper Co.
SPOKANE, WASH.	Spokane Paper & Stationery Co.
SPRINGFIELD, ILL.	Capital City Paper Co.
TALLAHASSEE, FLA.	The Capital Paper Co.
TAMPA, FLA.	The Tampa Paper Co.
TOLEDO, O.	The Millcraft Paper Co.
TOPEKA, KANSAS	Carpenter Paper Co.
TORONTO, CANADA	Blake Paper Limited
TRENTON, N. J.	Central Paper Co.
TULSA, OKLA.	Beene Paper Co.
	Taylor Paper Co. of Oklahoma
WASHINGTON, D. C.	The Whitaker Paper Co.
WICHITA, KANS.	Southwest Paper Co.
WILMINGTON, DEL.	Whiting-Patterson Co., Inc.

*Box Wrap and Colorcast only.

†Kromekote only.

THE CHAMPION PAPER AND FIBRE COMPANY

HAMILTON, OHIO

Table Talk Pastry Company, Worcester, Mass.
Window box container manufactured by
Sutherland Paper Company.

5 SALES FOR 1...

WHEN PIES ARE SOLD IN WINDOW BOXES OF Lumarith* TRANSPARENT FILM

Does window box packaging make *more* customers buy *more?* The manufacturer of Table Talk *tart size* pies no longer asks this question, because the answer is right in the sales records. Here's what happened when Table Talk Pies went window box:

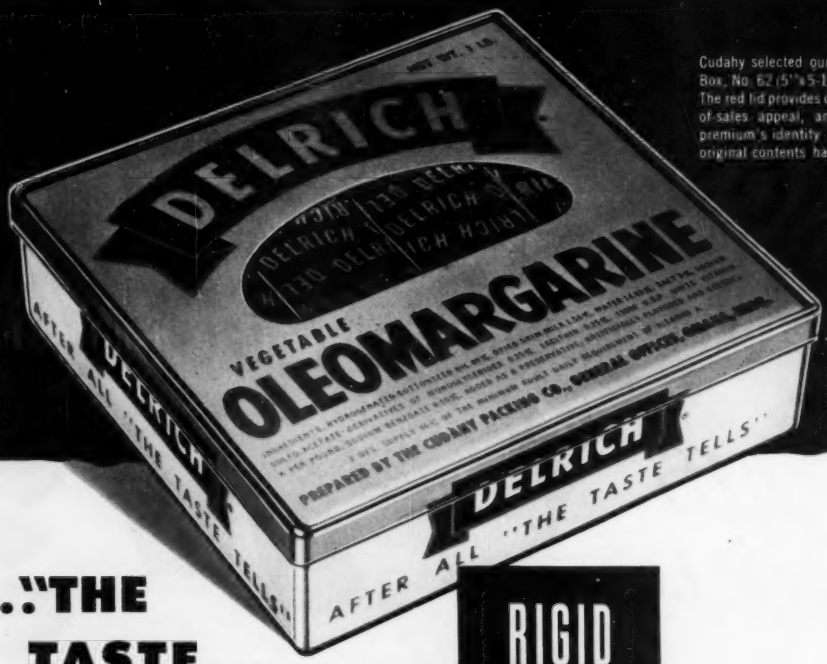
- **Pie sales increased from 50-60,000 per week to 250-300,000!**
- **Packaging operations went almost completely automatic!**
- **Returns virtually eliminated!**
- **Protective features of window box eliminated the need for a tough crust!**
- **Tender, light crust allowed more "filling"!**
- **Cost of window box was 5 times old packaging method, but down-the-line savings made the window box more economical!**

Here is another factual proof of the advantages of window box packaging with Lumarith transparent film. Call a Celanese representative. He will help with names of suppliers and other information you need to put the window box on your sales staff.

Celanese Corporation of America, Plastics Division, Dept. 108-A, 180 Madison Avenue, New York 16. In Canada, Canadian Cellulose Products Ltd., Montreal and Toronto.

Celanese® PLASTICS

*Reg. U. S. Pat. Off.



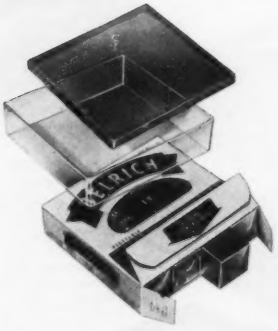
Cudahy selected our Rigid Plastic Box, No. 62 (5"x5-1/4"x1-3/8"). The red lid provides dramatic point-of-sales appeal, and retains the premium's identity long after the original contents have been used.

..."THE TASTE TELLS"

but the Tri-State RIGID PLASTIC BOX SELLS

By packaging in Plastic—in Tri-State Rigid Plastic—Cudahy Packing Co. stimulates sales of DELRICH Oleomargarine. The reuseable Tri-State Plastic Box provides compelling incentive — at the point-of-sale — to buy and try the product.

Whether you package a food or dairy product, confections, tobacco, class or mass items of any kind, there's a Tri-State Rigid Plastic Box to fit your product — build your sales — simplify packaging operations. If we cannot fill your needs from our wide variety of stock sizes and shapes, we'll mold to your specifications.



The standard DELRICH 1-lb. carton fits snugly into the bonus box which becomes an integral part of the package, with no involved additional packaging procedures.

The best Rigid Plastic Boxes are Injection Molded by

TRI-STATE PLASTIC MOLDING COMPANY

HENDERSON, KENTUCKY

NEW YORK: 12 E. 41st St., Murray Hill 3-6572 **CHICAGO:** 176 W. Adams St., Franklin 2-7292

LOS ANGELES: 10583 Holman, Arizona 9-2672

This month the country's 55,000 big-volume retailers of plastics products will get the first issue of PLASTICS MERCHANDISING.

The new magazine's job — to show these 55,000 buyers how their retail sales can be increased by stocking and promoting more plastics products. In its pages they'll learn *what* plastics items are available, how they should be sold at the counter, how best displayed, how best advertised.

Each monthly issue will carry this kind of helpful editorial information plus the advertisements of plastics manufacturers interested in finding more customers for the products they make.

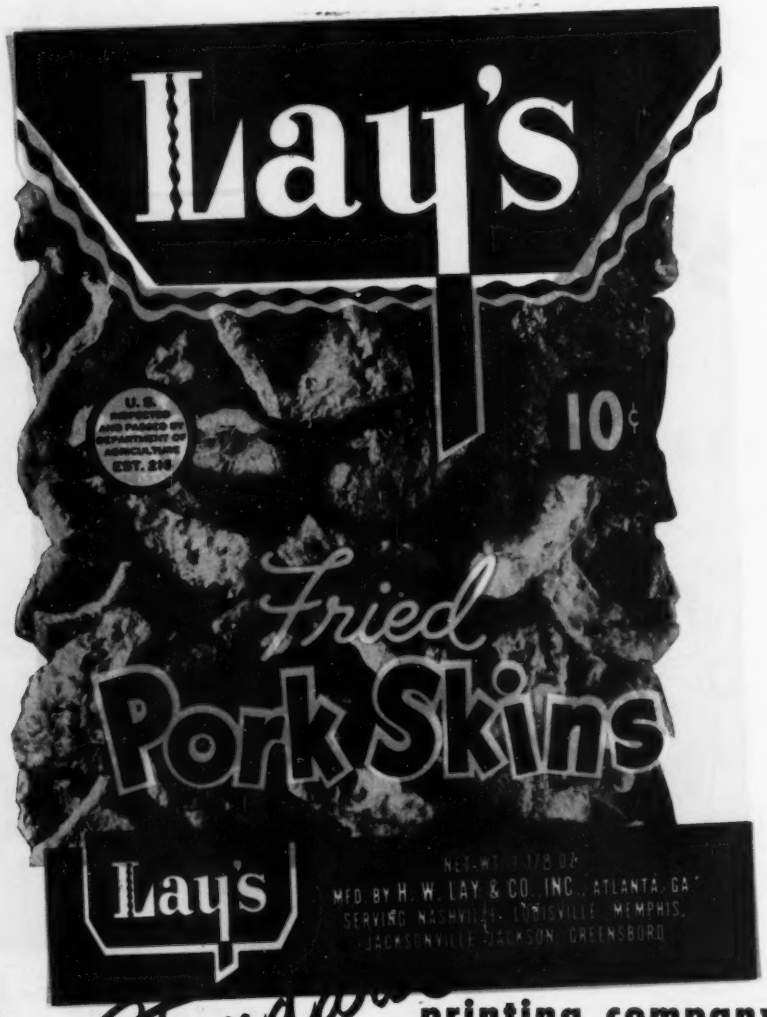
Perhaps the 55,000 readers of PLASTICS MERCHANDISING are your best customers and prospects, too. Why not write today for a sample copy and full details.

PLASTICS MERCHANDISING

A Breskin Publication
122 East 42nd Street, New York 17, N. Y.
Affiliated with MODERN PLASTICS

PRINTED BY STANDARD

Customer interest buzzes wherever Standard's cheery colors and precision printing are on the job. Put them to work luring customers for you.



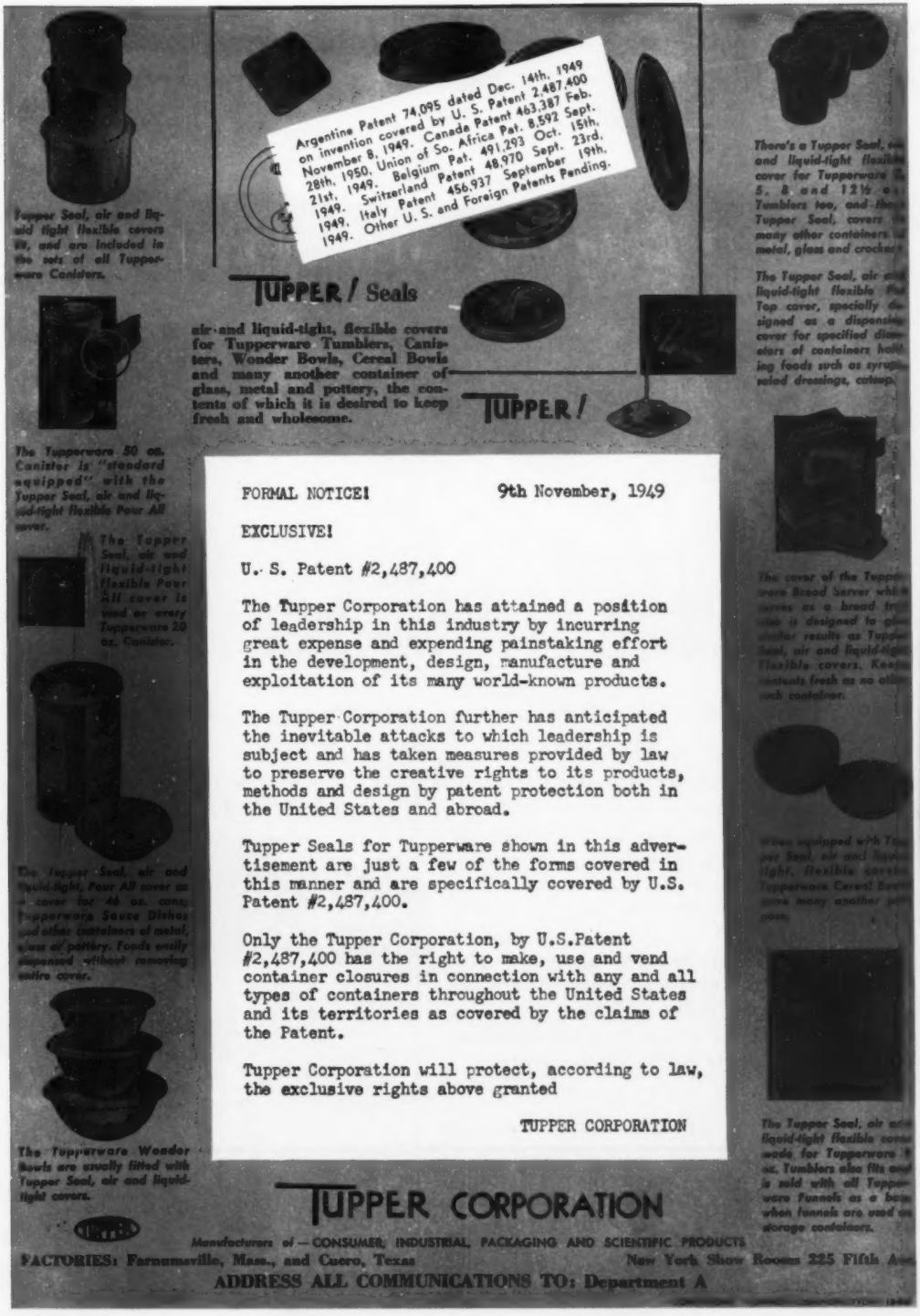
COLUMBIA KRAFT

Standard printing company

PRINTERS OF CELLOPHANE and GLASSINE SINCE 1936

COLUMBUS, GEORGIA

SALES OFFICES: Dallas, Texas—Charlotte, N.C.—Jackson, Miss.


Argentine Patent 74,095 dated Dec. 14th, 1949 on invention covered by U. S. Patent 2,487,400 November 8, 1949. Canada Patent 463,387 Feb. 28th, 1950. Union of So. Africa Pat. 8,592 Sept. 21st, 1949. Belgium Pat. 491,293 Oct. 15th, 1949. Switzerland Patent 48,970 Sept. 23rd, 1949. Italy Patent 456,937 September 19th, 1949. Other U. S. and Foreign Patents Pending.
TUPPER / Seals
air and liquid-tight, flexible covers for Tupperware Tumblers, Canisters, Wonder Bowls, Cereal Bowls and many another container of glass, metal and pottery, the contents of which it is desired to keep fresh and wholesome.
TUPPER /
Tupper Seal, air and liquid tight flexible covers fit, and are included in the sets of all Tupperware Canisters.
The Tupperware 50 oz. Canister is "standard equipped" with the Tupper Seal, air and liquid-tight flexible Pour All cover.
The Tupper Seal, air and liquid-tight flexible Pour All cover is used on every Tupperware 20 oz. Canister.
The Tupper Seal, air and liquid-tight, Pour All cover as a cover for 46 oz. cans, Tupperware Sauce Dishes and other containers of metal, glass or pottery. Foods easily dispensed without removing entire cover.
The Tupperware Wonder Bowls are usually fitted with Tupper Seal, air and liquid-tight covers.
There's a Tupper Seal, air and liquid-tight flexible cover for Tupperware [illegible] 5, 8 and 12½ oz. Tumblers too, and these Tupper Seal, covers fit many other containers of metal, glass and crockery.
The Tupper Seal, air and liquid-tight flexible Flat Top cover, specially designed as a dispensing cover for specified diameters of containers holding foods such as syrups, salad dressings, catsup.
The cover of the Tupperware Bread Server which serves as a bread tray also is designed to give another results as Tupper Seal, air and liquid-tight Flexible covers. Keeps contents fresh as no other such container.
When equipped with Tupper Seal, air and liquid-tight, flexible covers Tupperware Cereal Bowls serve many another purpose.
The Tupper Seal, air and liquid-tight flexible cover made for Tupperware 8 oz. Tumblers also fits and is sold with all Tupperware Funnels as a boon when funnels are used as storage containers.
FORMAL NOTICE! 9th November, 1949
EXCLUSIVE!
U. S. Patent #2,487,400
The Tupper Corporation has attained a position of leadership in this industry by incurring great expense and expending painstaking effort in the development, design, manufacture and exploitation of its many world-known products.
The Tupper Corporation further has anticipated the inevitable attacks to which leadership is subject and has taken measures provided by law to preserve the creative rights to its products, methods and design by patent protection both in the United States and abroad.
Tupper Seals for Tupperware shown in this advertisement are just a few of the forms covered in this manner and are specifically covered by U.S. Patent #2,487,400.
Only the Tupper Corporation, by U.S.Patent #2,487,400 has the right to make, use and vend container closures in connection with any and all types of containers throughout the United States and its territories as covered by the claims of the Patent.
Tupper Corporation will protect, according to law, the exclusive rights above granted
TUPPER CORPORATION
TUPPER
Manufacturers of — CONSUMER, INDUSTRIAL, PACKAGING AND SCIENTIFIC PRODUCTS
FACTORIES: Farnumsville, Mass., and Cuero, Texas
New York Show Rooms 225 Fifth Ave.
ADDRESS ALL COMMUNICATIONS TO: Department A

"Granddad swore he'd never fly . . . but your travel-window display sure sold him!"

Getting the Facts from Forbes is a primary essential in getting more impact for your money in all your printed merchandising. That goes for runs of any length, involving production only or creation-plus-production. Forbes Facts derive from unique facilities in lithography, letterpress, web gravure and die-stamping . . . all under one roof and one management control. Forbes' long experience plus continuing studies of printed merchandising effectiveness are your further assurance of the best printing process for every job. To get the Facts from Forbes, call the Man from Forbes . . . now!

SELLING FOLKS on the joys of modern air travel is a job well done by this 3-piece "Welcome Aboard" display for Trans World Airlines. Produced by Forbes in 6 colors, it employs no less than 9 language changes to build business for TWA around the globe. Trans World Airlines' art director is Rex Werner.

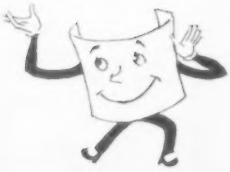
FORBES LITHOGRAPH CO.

NEW YORK • CLEVELAND • BOSTON • CHICAGO • ROCHESTER

DELIVERS MERCHANDISING IMPACT

The list of Forbes customers reads like a comprehensive catalog of American industry, ranging from soft drinks to steamship lines, from perfumes to public utilities. It goes without saying that this widely varied experience — with practically every type of business that uses printed merchandising — can be used to great advantage in merchandising your own product.

Mutual Admiration



There's a definite affinity between a good label and an H-A food container. For H-A jars and bottles are built for maximum display with ample label space so that quality products quickly tie in with quality names.

H-A containers are as sales-minded as they are efficient.

Please visit us at the National Canners Association Convention, Hotel Stevens, Chicago, February 16th—21st.

Hazel-Atlas Glass Company

Wheeling, West Virginia

4 good reasons for choosing CROWN CLOSURES

1 CROWN CLOSURES SEAL BETTER

Only Crown Screw Caps have the patented Deep Hook Thread. The under-reaching grip of this thread exerts an almost vertical down-pull, providing greater sealing pressure without binding or wedging.

Crown Lug Caps, because of their flexible structure, have an even, uniformly distributed down-pull. They seal securely and are easily removed with a simple quarter-turn action.

2 CROWN LINERS ARE DEPENDABLE

In Crown Closures, great emphasis is placed on the quality and suitability of the liner for the product. Crown's years of accumulated sealing knowledge is at the disposal of customers.

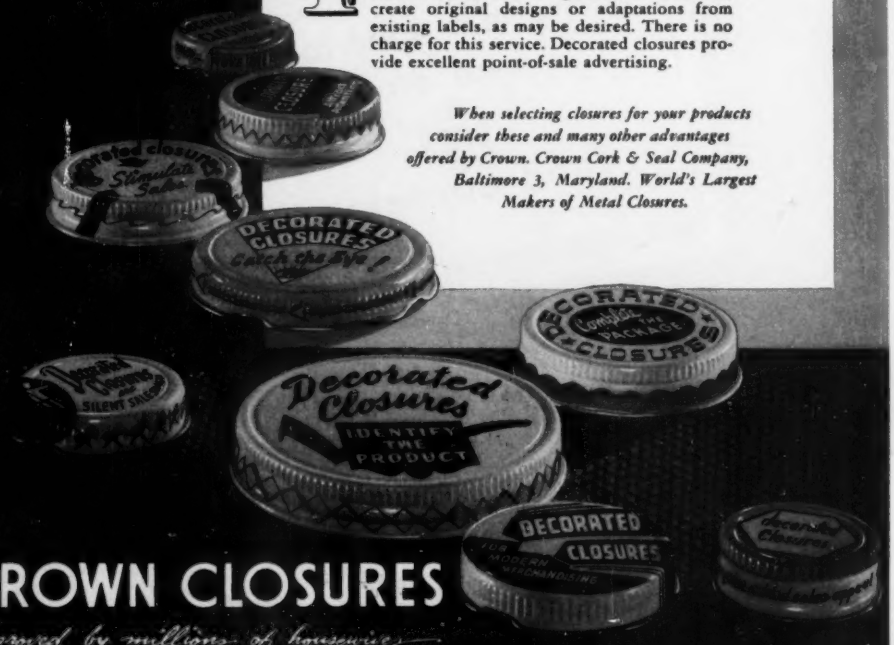
3 EXTENSIVE LABORATORY SERVICE

Crown maintains two separate laboratories. One for the research and development of improved sealing materials. The other serves exclusively as a customer's consulting service available without cost to assist them in solving processing and sealing problems.

4 SKILLED DESIGN SERVICE

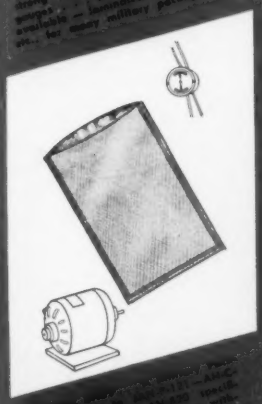
Crown provides a comprehensive Design Service to develop designs for decorated closures. Crown artists, who are specialists in this field, create original designs or adaptations from existing labels, as may be desired. There is no charge for this service. Decorated closures provide excellent point-of-sale advertising.

When selecting closures for your products consider these and many other advantages offered by Crown. Crown Cork & Seal Company, Baltimore 3, Maryland. World's Largest Makers of Metal Closures.



CROWN CLOSURES

Approved by millions of housewives



If Your Packaging Requires Bags Plan on MEHL BAGS

These are but a few of the MEHL BAGS serving both the military and civilian industries . . . made from polyethylene plastic . . . aluminum foil . . . cellophane and various papers —alone and in combination . . . providing protective properties of water-proofness, grease-proofness and moisture-proofness. Write —wire—or phone us concerning your protective package problem for commercial use or to meet government specifications.

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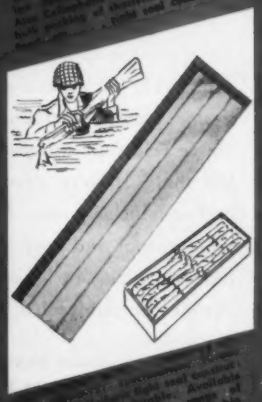

MODERN AS COLOR TELEVISION!

Sefton's

Single Telescope String-Opening Can

Keep astride of the times... put your products in packages that are modern in design... convenient to use! Sefton's new Single Telescope string-opening cans are just that... they're streamlined in style, and so efficient, too. Factory-sealed, tamperproof and easy to open... *plus* a built-in re-closure for easy closing also. Let Sefton modernize *your* packages!

PAPER CANS... SPIRAL AND CONVOLUTE
PAPER AND METAL ENDS
ROUND AND IRREGULAR SHAPES
TUBES AND HEAVY CORES

Sefton FIBRE CAN COMPANY

ST. LOUIS . . . . . NEW ORLEANS
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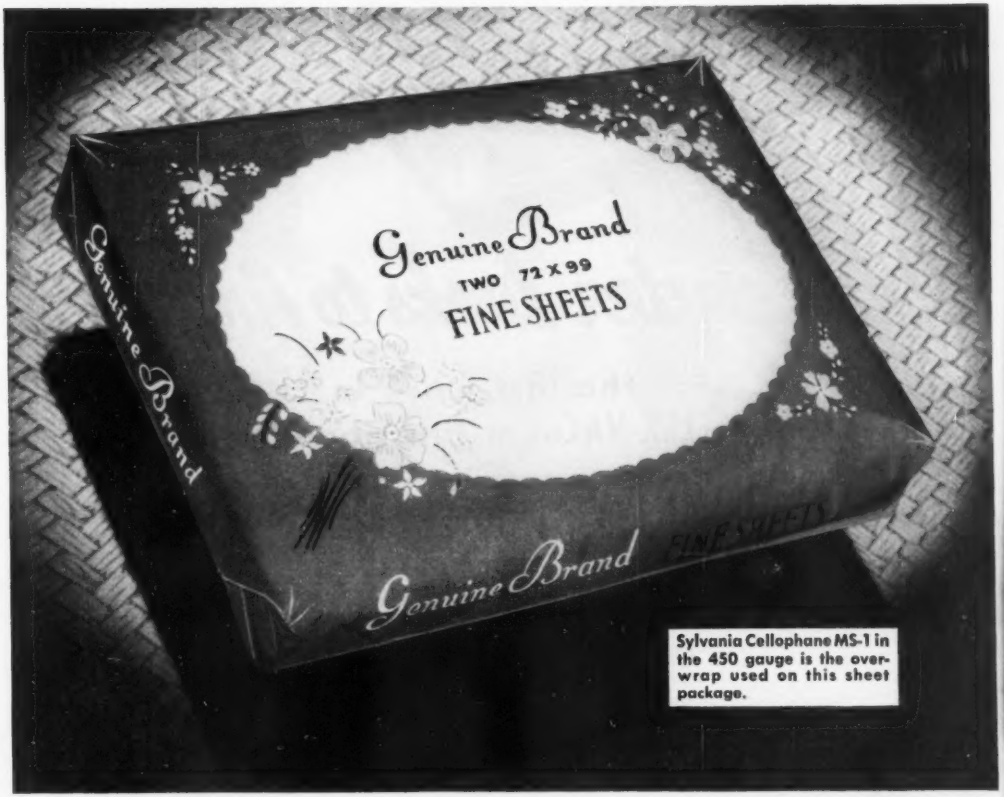
SYLVANIA® CELLOPHANE

The PLUS that means more sales!



Sylvania Cellophane MS-1 in the 450 gauge is the overwrap used on this sheet package.

Specific qualities engineered for your product tell why:

1 Sales Appeal **3** Durability
2 Transparency **4** Dust Protection
5 Low Cost

Mr. Cellophane is always available to help you solve your packaging problems. Talk over your requirements with your Sylvania representative or write us mentioning the specific application in which you are interested. Address Market Development, Dept. MP-1

SYLVANIA® CELLOPHANE

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION
Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa.
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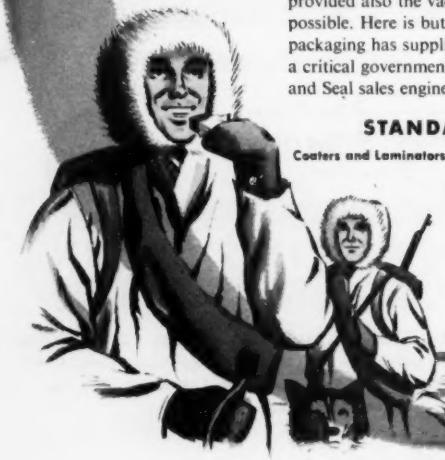
One Leader Looks to Another

For the last word in FLEX-VACuum functional packaging

FLEX-VACuum packed in a tough, flexible pouch, the new meat bar component of the Army Quartermaster Corps Individual Frigid-Trail Ration represents a sound solution to a difficult problem.

Nutritionally the meat bar component is a triumph in food chemistry, perfected by Wilson & Company. From the standpoint of logistics, it also makes an invaluable contribution. Light in weight, compact and flexible, and using no critical tin or steel, it simplifies the problem of keeping our fighting men well fed in frigid terrain at great distances from supply points. The high vacuum built into the package and retained over long periods of time permits the handling, storage and distribution of this ration under wide ranges of temperature and humidity conditions.

The Standard Cap and Seal Corporation developed a special material to meet the exacting demands of the Quartermaster and Wilson for this item and provided also the vacuum sealing equipment which made the package possible. Here is but one of almost limitless applications where FLEX-VACuum packaging has supplied the answer. Whether your problem is one of meeting a critical government—or civilian—packaging problem, a Standard Cap and Seal sales engineer can help you solve it.



STANDARD CAP AND SEAL CORPORATION

Coaters and Laminators of papers, films and foils to meet AN, JAN, MIL and QM specifications.

FLEX-VAC *Sales and Engineering Offices*

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FLEXVAC

Decorations for Good Service and *Brilliant* Achievement

IN THE BATTLE for sales, it's the product wrapped in gleaming, protective Fisher's Aluminium Foil that wins the greatest victories — and keeps on winning them. Boxes, cartons and caskets of every shape and size outshine their neighbours on shelf and counter when dressed in the colourful coverings or special seasonal wrappings from the wide Fisher range. Strong, pliable, scintillating—the foil is printed or embossed in a great variety of beautiful designs and breath-taking colours. Special printings to your own requirements are promptly arranged. Send for samples and prices today. You can be sure of keen, dependable service from Fisher's—*always*.

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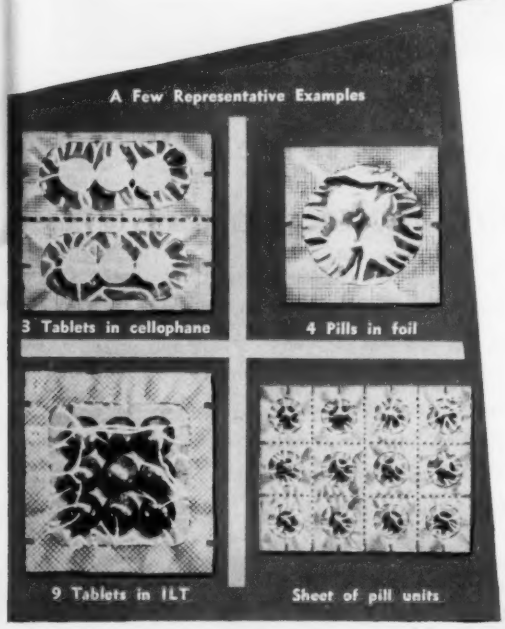
FISHER'S FOILS LTD · WEMBLEY · MIDDLESEX · ENGLAND

Telephone: WEMbley 6011 *Cables & Grams: Liofnit, Wembley (ABC Code 6th Edn.)*

unit packaging headquarters

package of the month

The I.L. solution to industry's problem of supplying a granular product in unit doses, at low cost—only the high-speed of our new automatic machines, makes these packages possible.



Recognition is there — plus the vital repetitive impression of the standard sale package—with complete instructions properly positioned on the reverse. In addition we automatically code stamp every package for your record control. Product identification is really focused—it would be hard to sell a "substitute" on this deal.

Yet this fine sample is far more **economical**—to package, to handle and to use—it provides entirely adequate dosage for the doctor's use without approaching "free-deal" distribution.

And it's right for the patient—attractive, convenient to use, and completely protected in hand-bag, pocket or desk drawer.

There is a solution to the toughest sampling problem—even granules—when you come to unit packaging headquarters—

SANITAPE SEALTITE

THE SEAL OF PACKAGING PERFECTION

IVERS-LEE COMPANY, NEWARK, N. J.

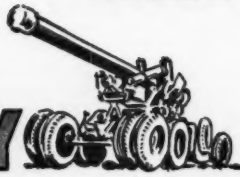
The Finest Packaging In The World At Less Cost

Santa Scrambled
In 1950, sack-packing time at the North Pole unfortunately coincided with wallop-packing time on the defense front. Santa and his elves had to do considerable scurrying around for the metal and plastics to freight the old saint's sleigh with toys and games. They didn't make out too badly.
At the time the blow fell in Korea, toy orders were outstripping 1949 by 50 percent — would easily have passed the previous year's total. (This was $600,000,000 — up drastically from the $322,000,000 worth sold in 1947.) Corrugated cases figured in some 80 percent of 1950 toy deliveries.
Only Kriss Kringle knows the countless small fry who have received their Christmas toys intact by benefit of sturdy MEAD Corrugating over the past 21 years. MEAD .009 Chestnut Corrugating, made superstrong from chestnut and other hardwood fibres, combines with MEAD Liner to provide an added safeguard against damage to breakables when the going is really rough.
MEAD
board
MEAD BOARD SALES, INC.

VANANT PACKAGING

Recommended... For Your

NAVY

ARMY  OR AIR FORCE

Requirements

For a really practical analysis of your contract packaging specifications, call in a VANANT Field Specialist. No matter what the size or shape of your product . . . whether large or small, irregular or compact . . . VANANT can supply your exact needs in greaseproof, waterproof, or moisture-vaporproof protection. Your VANANT Representative can give you the most up-to-date official interpretation of all AN — JAN or MIL specifications.

Samples and prices are yours for the asking.

VANANT PRODUCTS, INC. *Milwaukee 1, Wis. Plant: Tomah, Wis.*

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blue says "Buy Me"

PACK
TO
ATTRACT
IN

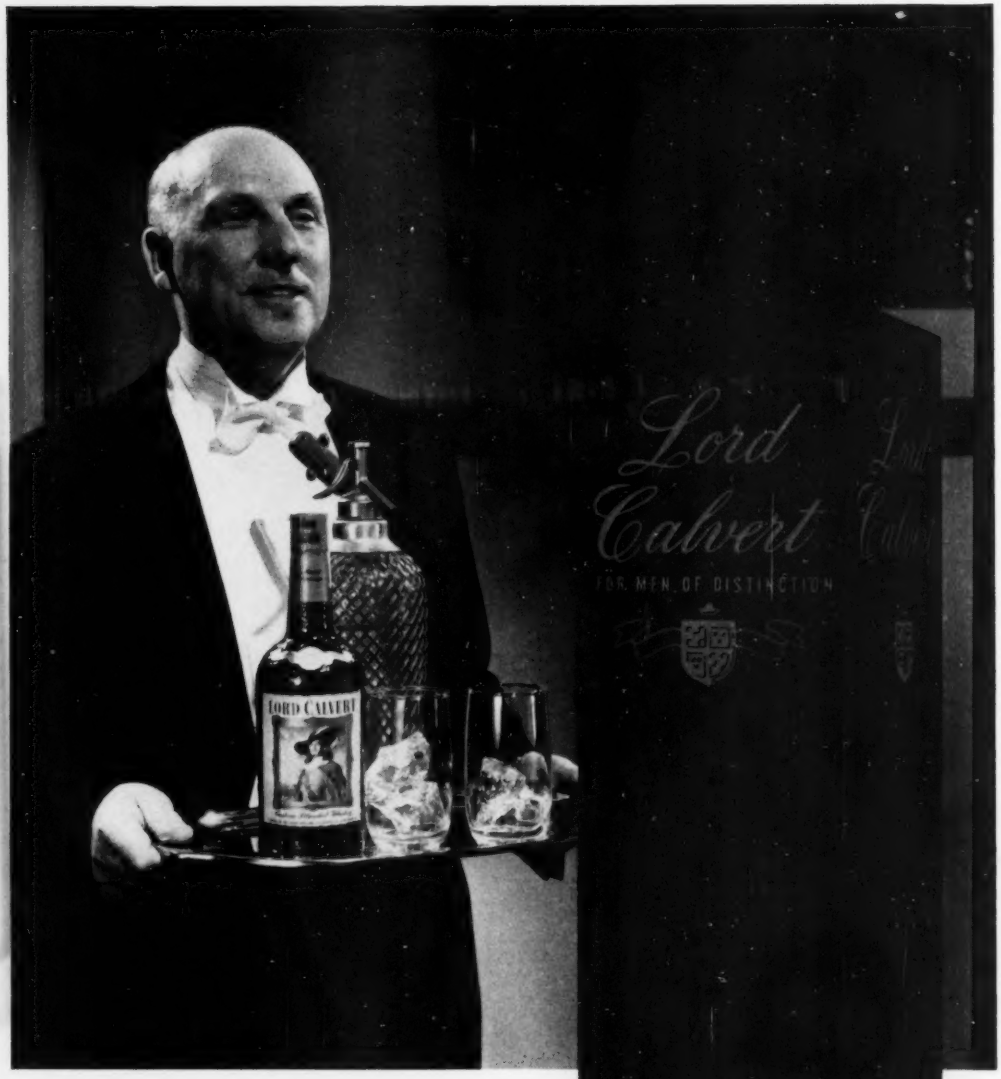
Maryland Blue

Does your package do only half its job? Does it act *only* as a container? Or does it do a *complete* job as half container . . . half merchandiser?

Maryland Blue Glass excels in both these vital functions. Many famous *name brands* have proved through years of use that Blue acts as a powerful advertising, merchandising and selling tool. Blue gives your product an air of distinction and quality. Blue is easier to see . . . easier to remember. Blue displays your product in a way that says, "*Buy Me!*" So follow the lead of many famous brands . . . pack to attract in Maryland Blue. Write for details and samples.

ALSO AVAILABLE IN CLEAR GLASS

MARYLAND GLASS CORPORATION | **BALTIMORE 30, MARYLAND**



For a Package of Distinction...

LORD CALVERT

Lord Calvert chooses *FLOXBOARD,** Nashua's new "soft-as-suede" anchored flock on high quality folding box board for this holiday gift package. Folding carton fabricated on automatic equipment by F. N. Burt Company, Inc.

NASHUA GUMMED AND COATED PAPER COMPANY
NASHUA, NEW HAMPSHIRE

NASHUA
MAKES PAPER MAKE MONEY FOR YOU

Baltimore • Chicago
Detroit • Los Angeles
New York • Philadelphia
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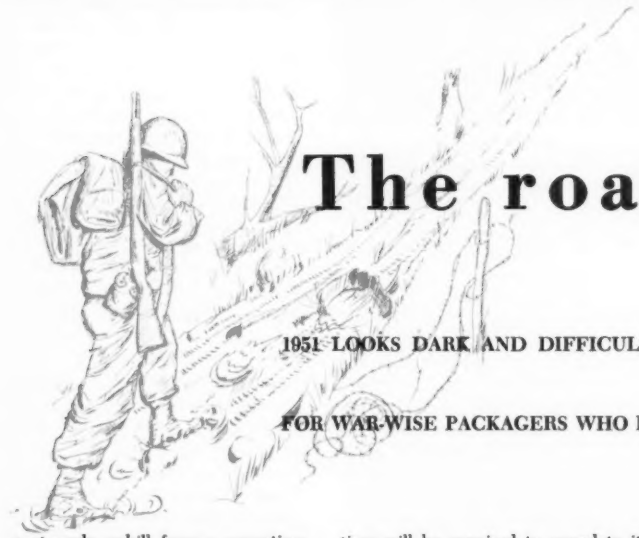
*Trademark

VOLUME 24
NUMBER 5
JANUARY 1951

Modern packaging



The road ahead

1951 LOOKS DARK AND DIFFICULT—BUT IS NOT WITHOUT HOPE FOR WAR-WISE PACKAGERS WHO KNOW HOW TO PICK THEIR WAY

A struggle uphill from a peacetime to a defense economy is the road ahead for all of us in 1951. For package makers and package users the big question is: how extensive and how abrupt will the conversion be? The answer to that question could make 1951 as difficult a year for obtaining packaging supplies as any year in World War II.

It's an uphill road because we must fight against a collapse of our swollen home-front economy while at the same time supporting urgent military demands that are now certain to impose sudden and severe strains. The boom that strained our production machinery last year, pushing national income to a prodigious $270 billion, now must withstand the additional pressure of nearly $50 billion in defense spending already provided for—with untold billions yet to come.

Under a state of national emergency the Government is now embarked on a program which it is hoped will provide effective allocation of materials and control of prices and wages. This is an enormously complicated job and time will be required to complete it.

The packager who waits for Government directives is neither smart nor patriotic. He can protect himself and help his country by acting now to eliminate non-essential use of packaging materials and to channel essential uses into the less-critical categories of materials.

Despite the recent ostensible shortages in *all* packaging materials, a careful study of the whole economy, in the light of experience in the last war, will reveal considerable differences in both present and prospective availability. Some of the recent shortages are definitely unrealistic—caused by panicky ordering and stockpiling that now must cease. Others are real now, but appear due for relief. A few materials that have so far been relatively available will soon become critical.

It is to point up these differences and assist with forward planning that MODERN PACKAGING has conducted the extensive survey reported upon herewith. It is hoped that the findings will throw some light on the road ahead.

Industrial and commercial trends during the second half of the year just completed can offer only a partial clue to what the future actually will be. For following the outbreak of fighting in Korea at the end of June, the United States entered a twilight period, a pre-transition, in which production and demand spurted to new all-time highs in many lines. Containers and packing materials were obtained—or placed on order—at levels far above the peak of previous usage. As a result, demand outbalanced supply, in many instances, for the first time since 1948.

It is important to note that this forward thrust involved non-military demands for the most part. The brunt of defense expenditures has yet to make itself felt. According to Daily Treasury Statement figures, expenditures for national defense were $4,561,000,000 in the first four months of the fiscal year 1951, which coincided with the first four months of the Korean war. Comparably, defense expenditures were $4,224,000,000 (slightly lower) for the same period of the previous year.

Thus it will be seen that the fever-

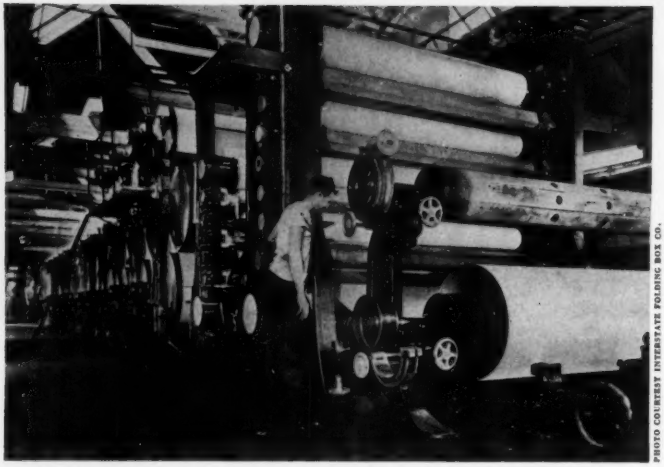


PHOTO COURTESY INTERSTATE FOLDING BOX CO.

HUGE EXPANSION of package-making facilities, like this paperboard machine which has been installed in a postwar-built boxboard factory, is one of the best hopes of packagers for adequate supplies of containers.

ish business activity of second-half 1950 has largely been a matter of meeting swollen consumer demands. That these demands have been heightened abnormally by fear of shortages and price rises is unquestioned, but the more important fact remains that preparedness was only the polarizing, not the material, factor in the boom.

Packagers, many of whom found the year just closed as profitable as it was hectic, cannot escape the sharp impact of defense measures on our economy in the near future. The sudden military reverse in Korea as 1950 ended radically upset existing timetables for defense needs. This is probably the most important single factor in determining what may be ahead.

Whereas, a gradual, more-or-less orderly transition was planned, with Government agencies and industry representatives cooperating to cushion the transition to heavy defense preparation, the deadline for accomplishing military needs has suddenly become immediate.

Economic thinking in 1950 was concerned with whether production could carry normal consumer demands and the projected defense needs both at the same time. Now military preparedness must be sharply accelerated and cut-backs in the production of many consumer items, with strict allocations of critical materials, are inevitable. The package maker and package user may even be restricted in the use of materials already stocked. Adjustment to the measures, if and when they come, will cause dislocations and some producers could get hurt. This is especially true for those not prepared or those unable to get into defense production.

That cut-backs and allocations have not really been felt in the first month of crisis is attributable to the fact that military orders have not been ready to take up the gap in production. Such restrictions, if issued too early, could only have resulted in widespread unemployment, even though steel, rubber and other important materials now being used at a record pace might have been conserved.

Nevertheless, there has been strong Government effort to apply the brakes. Restraining pressure has been of two kinds—the restricting of consumer and housing credit and limitations placed on the use of material supplies, such as aluminum, copper, tin, cobalt, etc.

Despite the application of these brakes, demand outdistanced supply from June through December. Production, in an effort to catch up and with an eye to controls lurking just around the corner, was pushed to record levels. The orgy of consumer buying that took place in third-quarter 1950 and then subsided somewhat when customers were thought to be spent out was resumed during the normally heavy buying month of December, when the Korean crisis suddenly became apparent.

Many manufacturers, owing to the mild slump in 1949, allowed their inventories to become light. Because of price drops and uncertainties, this condition was allowed to continue into 1950. When the Korean engagement started, many warehouse stocks were low, pipelines were slack—and suddenly the rush was on, at a time when many businesses are shut down for vacation or geared only for normally light operations.

While these facts are now well known, they are worth repeating for the light they throw on why demand has outstripped supply and, in some instances, actual consumption as well.

Because of the above conditions, and in most instances at the expense of depleting raw-material inventories, container producers upped output from 10 to 45% during the first nine months of 1950 as compared with the same period in the preceding year. Output of cans increased 13.3%. Collapsible-tube shipments rose 20.3%. Fibre-box shipments went up 25%—similar rises occurred almost straight across the board. The sharpest increases came in the third quarter—after the Korean war had broken.

The months ahead

We come, then, to the question of what may happen in the first quarter of this year in those instances where demand has run ahead of actual use. Obviously pipelines must have been filled and some reserves established. Moreover, first-quarter buying activity normally subsides for many nondurables and for some durable goods. The outlook would, therefore, seem to promise some easing of the supply situation and price trends in certain lines. To what extent this may take place is complicated by the uncertainty of the timing of defense demands, problems of speculative buying and equitable distribution, pressure from other lines, continued availability of raw materials from both domestic and foreign producers. Some business forecasters, anticipating cutbacks plus inventory accumulation in various lines, have predicted a short-term slump. Their outlook is based on the thinking that defense orders will not be able immediately to take up the slack that may occur with any recession in consumer buying activity. Packagers will do well to watch inventories closely.

A tendency to believe that packaging will fall into a pattern exactly like that at the outset of World War II can be dangerous and misleading. Let's look at some differences—both favorable and unfavorable.

Comparing unfavorably is the fact that in 1941 our factories had, generally, a comfortable reserve capacity to absorb the first impact of all-out mobilization; now we are being asked to superimpose the defense burden on an economy already strained seemingly to the limit. The dislocations will be more immediately felt.

On the other hand, our present economy is obviously swollen far beyond the necessity level; a lot of fat can be cut off without serious damage. Nine years ago, when it became necessary to convert, we floundered in inexperience. Packagers were led first to one material and then another as being an inexhaustible substitute. We are not likely to make the same mistakes twice.

Heavily increased taxes will dampen the fires of inflationary consumer buying and price controls—it is to be hoped—will remove one incentive for forward buying—a big factor in creating unrealistic demand for both packaged goods and package materials.

The direct demand for military packaging will be nowhere near as great in 1951 as it was at the peak of World War II. The present goal is a force of 3,500,000 men, trained and equipped. This is only about one third the size of our Armed Forces in 1945. It was the sheer logistics of supply of 12,000,000 men in the field that placed the greatest strain on packing—particularly paper packaging—in 1944–46.

The basic situation

The key to packaging supply in the immediate future is raw-material allocation. Package-fabricating industries are in far better shape. Some of the important ones are operating today at levels below their postwar or wartime peaks—even after the buying rush of last-half 1950. In others, additional facilities are due to come in this year.

The two production-capacity charts published herewith show the situation at a glance—and it is here that wise packagers can obtain their best guidance for 1951.

The basic materials of packaging are metals, glass, paper, cellophane and plastics. On the basis of current figures, none of these industries reveals any capacity beyond their 1950 production figures. But the statistics require interpretation.

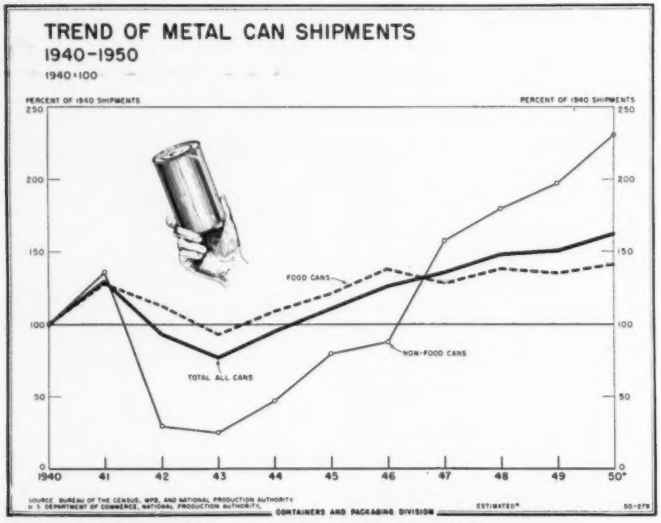
There is little comfort for packag-

THE RAW MATERIALS OF PACKAGING

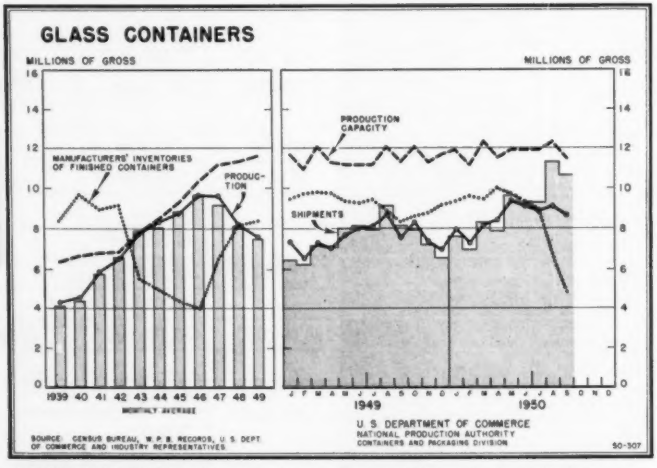
(total production for all uses*)

	PRE-WORLD WAR II YEAR	ESTIMATE FOR 1950[1]	EXCESS CAPACITY OVER '50 OUTPUT
PAPER & PAPERBOARD (tons)			
Unbleached kraft paper	1,290,900	2,300,000	7%
Glassine, greaseproof & parchment	114,000	165,000	16%
Waxed papers	304,000	500,000	none
Boxboard (folding & set-up)	2,011,000	2,701,000	5%
Container board (corrugated & solid fibre)	4,044,000	5,500,000	4%
CELLOPHANE (lbs.)	100,000,000	280,000,000	none[2]
METALS			
Tinplate (short tons)	2,738,581	5,000,000	none[2]
Aluminum (short tons)	206,300	750,000	none[2]
Aluminum foil (lbs.)	20,000,000	90,000,000	none
Lead (tons)	782,000	1,175,000	
Brass (tons)	633,000	unavailable	
Tin[3] (long tons)	70,500	35,700[4]	—
Steel (short tons)	66,900,000	99,400,000	none[2]
LUMBER (board feet)	29 billion	38 billion	adequate
RUBBER (long tons)			
Natural	600,000	710,000	
Synthetic	48,500	530,000	50%
ADHESIVES (lbs.)			
Resin	190,000,000	60,000,000	25%
Starches & dextrines		300,000,000	
Animal glues		40,000,000	
INKS (lbs.)	290,000,000	400,000,000	adequate
WAXES (bbls.)			
Paraffin	1,833,000	3,950,000	
Microcrystalline		350,000	
PLASTIC MATERIALS (lbs.)			
Acetate sheet & film	unavailable	23,000,000	none[2]
Polyethylene			
resin	none	60,000,000	none[2]
film	none	24,000,000	30%
Thermoplastic molding	20,000,000	400,000,000[5]	16%[5]
Thermosetting molding	98,000,000	286,000,000	15%

* Compiled by MODERN PACKAGING from Dept. of Commerce and industry sources.
[1] Projected on partial-year figures.
[2] Except for additional facilities now under construction.
[3] Visible consumer stocks of tin metal in inventory and in transit within this country; does not include Government stockpile.
[4] Figure for 1949; figure for 1950 not available.
[5] Exclusive of vinyl.



ALL-TIME HIGH RECORD of metal-can shipments in 1950 is indicated in the above graph. Shipments fell during 1942-1943 because of shortages of strategic materials. Non-food cans, which are now subject to an unprecedented demand, were most affected by '42 scarcity of supplies.



SHIPMENTS ROSE and inventories of glass containers declined in last half of 1950. However, production is well above average rate of use.

ers in the outlook for metals (already under allocation) or plastics. But paper is a different story. Although the figures show that paper mills have been running recently at capacity, and everyone knows that paper and board have been hard to get, the fact is that all of this huge production has not been moving into actual use. It is apparent that paper and board is piled up in warehouses somewhere. A paper-industry spokesman recently stated that even all-out mobilization could not possibly take more than 5% of paper production and that the material would be "running out of our ears" by March.

Fortunately, paper-package fabricating industries are among those most greatly expanded during the wartime and postwar years. Since 1940, capacity for folding-box production has doubled; fibre drum output has risen nearly 550% and still has a reserve capacity of 40%; paper shipping sacks have nearly quadrupled; set-up paper boxes show a reserve capacity of around 50%. It is plain to see that with a properly directed channeling of raw paper and paperboard production (itself expanded more than 50% since 1940), this is one of the most significant opportunities for relief from packaging shortages.

Similarly, glass, which uses almost no strategic materials, has nearly *tripled* its capacity for containers since pre-World War II. The 1950 output of glass containers was only slightly more than two thirds of capacity, which is now estimated at 21.6 billion units annually.

Other bright spots on the chart "Packaging Materials in Fabricated Form" are the metal-crown industry with an indicated present reserve capacity of 30%, steel drums with excess capacity of 15% and wood containers which report "adequate" capacity. Of course, the crown and drum industries cannot operate without steel, which is critically short, but it is comforting to know that they do have the fabricating facilities if the over-all allocation program can be worked out to steer sufficient material their way.

There are apparently ample supplies of adhesives, waxes (more than doubled since 1941) and inks—unless certain ingredients are taken away from them. The synthetic rubber stand-by facilities are coming rapidly back into production to make up for any stricture of natural rubber supply and—barring an actual severance of rubber supply lines in the Pacific—may act to make even more natural rubber available for rubber hydrochloride film (Pliofilm).

The cellophane shortage has been with us since long before Korea. It is a real shortage if present manufacturing capacity is measured against evident demand. But this picture could change overnight if use were restricted to functional and eliminated from purely decorative applications. And additional production facilities, eventually to add 40 to 50 million pounds to the current limit of

280 million, are well along. With luck, the new facilities may have produced about 10 million pounds by the end of this year.

Other raw-material industries in the process of expanding facilities are tinplate, aluminum and steel—although in the latter two cases the resultant added capacity will no doubt be allocated for defense needs only.

A significant point to be noted in regard to the raw materials of packaging is the fact that peak production of each major item was attained in 1950. Therefore, a column showing postwar high production was not included in the chart, "The Raw Materials of Packaging," (p. 73). However, in the case of fabricated containers, 1950 was not the peak production year in a number of instances. The chart, "Packaging Materials in Fabricated Form," below, should be highly important to the packaging planner, for it clearly indicates adequate or even excess capacity for a number of lines, if materials can be channeled to the fabricator in sufficient quantities.

Manpower

The manpower question must be considered. In 1941 we enjoyed a sizable manpower reserve. Today, on the contrary, we are operating a vastly expanded industrial machine at near capacity and employment is now estimated at a record figure of more than 61,000,000, with less than 2,000,000 actual job seekers unemployed. Forecasts by the United States Department of Labor indicate the labor force may rise to 66,000,000 by July. If so, several million women, retired workers, etc., not now in the labor force will have to be recruited and thousands of workers may need to be brought in from other countries.

In addition, replacements will have to be found for manpower transferred into the armed services to build it up to the present goal of 3,500,000 men —and probably even higher.

Manpower, therefore, can be anticipated as a major factor in 1951. Certain lines already have been threatened with loss of skilled personnel to plants whose operations have not been curtailed by shortages or allocations. It is reported, too, that employees have shown a tendency to leave material supply operations, such as logging, for higher-paying defense jobs.

These, briefly, are highlights of the over-all picture. Now let's look at packaging materials individually.

PAPER

There is, as indicated above, real hope for improvement in the paper situation—perhaps by the end of first-quarter 1951. Certainly statistics in-

PACKAGING MATERIALS IN FABRICATED FORM*

TYPE OF CONTAINER	PRODUCTION: PRE-WORLD WAR II YEAR	PRODUCTION: POSTWAR PEAK YEAR	PRODUCTION: ESTIMATE FOR 1950[1]	EXCESS CAPACITY OVER '50 OUTPUT	PRICE OUTLOOK[2]
CONSUMER					
Metal cans (steel, tons)	2,191,689	3,680,000	3,680,000	none	up 15%
Metal crowns (gross)	143,929,000	333,473,000	254,325,808	30%	up
Metal closures (units)	5.6 billion	10.8 billion	10.8 billion		up
Plastic-closures (units)	675,000,000	2.5 billion	2.5 billion		up
Glass containers (units)	7.4 billion	16.7 billion	14.5 billion	50%	up
Collapsible tubes (gross)	3,755,000	6,400,000	6,400,000	none	up
Plastic bottles (units)	none	100,000,000	100,000,000	none	up
Liquid-tight paper containers (units)	200,000,000	650,000,000	400,000,000	62%	up
Folding boxes (tons)	1,398,500	2,746,785	2,746,785	adequate	up
Set-up boxes (tons)	613,000	601,000	601,000	50%	up
SHIPPING					
Steel drums (tons)	572,000	918,000	800,000	15%	up
Nailed wood boxes (bd. ft.)	4.3 billion	5.0 billion	4.2 billion	adequate	up
Slack cooperate (units)	35,000,000	35,000,000	31,000,000	adequate	up
Tight cooperate (units)	9,675,000	9,319,000	unavailable	adequate	up
Metal strapping (steel, tons)	100,000	390,000	unavailable		up
Corrugated and solid fibre containers (sq. ft.)	45 billion	74 billion	74 billion	none	
Fibre drums (units)	3,500,000	19,000,000	19,000,000	40%	up 10 to 25%
Paper shipping sacks (tons)	195,000	671,000	627,628		up
Textile bags (yds.)	1.5 billion	1.5 billion	1.4 billion		up

* Compiled by MODERN PACKAGING from Dept. of Commerce and industry sources.
[1] Projected on partial-year figures.
[2] Barring possible effect of price controls.

dicate that actual consumption has run far behind production and stockpiling, although the current shortage and booming price rises since last June seemingly contradict the figures, thus creating a real headache for the purchaser of pulp, paper and board. Low inventories in first-half 1950, plus an all-too-fresh memory of World War II, seem logical explanations for the topsy-turvy conditions.

Corrugated and solid-fibre box shipments reached a new peak in the third quarter of 1950. Production of liners, corrugating material and container chip and filler board kept pace. There was increased military demand for weatherproof corrugated and solid-fibre shipping containers.

An optimistic outlook, nevertheless, finds sound support among paper-industry spokesmen. Paper of all types was produced at an annual rate in 1950 that was expected to show an increase of 3 million tons over 1949—practically a 16% rise and virtually all of it occurring in the last half of the year. Estimated 1950 production, including 5 million tons of imports, may have totaled as high as 29 million tons. Actual consumption was probably about 27,000,000 tons. In 1949, consumption was 25 million tons and in 1948 it was 26 million tons.

As for pulp, if domestic production and imports are maintained, there is every likelihood of an inventory build-up that will become unwieldy in early 1951. At present there still is a backlog of orders. Increases in costs of paperboard, pulp and wastepaper have been reported as high as 30 to 100 to 300%, principally on imported pulp and waste paper. It should be noted that some paper prices were depressed. This was reported especially true of wastepaper.

Folding boxes. Production of folding paper boxes, it is reported, made one of the most striking gains in the field of container output during second-half 1950. Orders have been placed at a record rate and are said to extend ahead into March and April. Production rates equal to those in 1950 are expected to hold through 1951, stimulated slightly by military requirements as well as the general upsurge of demand. Food packagers are the heaviest users of folding boxes, according to a recent report, requiring 45% of the total tonnage. Prices have strengthened gradually. Production capacity is adequate.

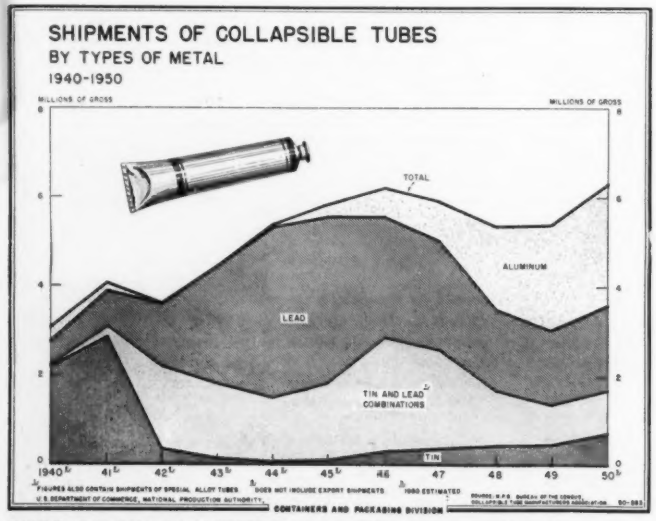
Set-up boxes. Scare buying and inventory buildup may have reached a saturation point for set-up boxes. Meanwhile, there was a heavy run made on existing inventories of raw materials in order to meet the increased demand experienced last year. At the same time there was a shift to lower-grade stocks in some items. Prices rose and suppliers hesitated to bring out new numbers.

Fibre-can and tube production in 1950 was reported up about 20% over 1949. The industry capacity is still estimated at about 30% greater than present production. Raw material supplies are the limiting factor.

Fibre drums. The outlook for the production of fibre drums is excellent, provided necessary materials can be channeled to the manufacturers in needed quantities. Currently demand among existing users has taken all the material available, but so far as fabrication facilities are concerned there is still a reserve capacity of about 40%. Recently a great deal of interest has been shown in a new fibre drum for liquids which employs a polyethylene envelope and a duplex kraft boot. It could offer possible relief to steel as a container for all types of bulk liquids if the Government sees fit to allocate polyethylene.

Glassine and greaseproof production (including parchment) was at a peak toward the end of 1950, but the year's total was some 16% below actual capacity. The effect of Government procurement is yet to be felt. There has, however, been some defense demand for glassine in machine-parts packaging. The outlook has been reported fair in some quarters, but supplies depend on the availability of pulp. Chemicals in short supply, such as chlorine, are a factor. A production variation of 5% one way or the other for glassine could make a lot of difference so far as packagers are concerned. Converted glassines aren't likely to be more plentiful, nor can they be looked on as an inexhaustible substitute for metal foils or cellophane, it is said. Lacquered glassine production should hold, but is dependent on chemicals that are vulnerable when war needs rise.

There have been price rises described as "moderate" in comparison with price increases for other papers. Glassine production was maintained at a good level during the last war. The product's functional qualities would suggest that production will probably again be maintained.



INCREASED USE OF ALUMINUM in manufacturing collapsible tubes is shown by this graph. Nearly 45% of all tubes were fabricated from aluminum in 1950. During the war years more than 50% were made from lead.

METALS

Aluminum, copper and tin were the first major materials to be placed under Government allocation, indicat-

ing the seriousness of their supply situation. Aluminum and tin are, of course, important in packaging.

The NPA order cutting civilian use of aluminum does not attempt to tell manufacturers how they can use the available 65%. The WPB in World War II limited production of specific items. Major expansion is projected in aluminum production, but its effect will not be felt in 1951. Current capacity of 3.4 billion pounds will be increased by 790 million pounds annual capacity, but not before 1953.

Exactly how the aluminum restriction is to be interpreted in regard to users of foil, seals and aluminum tubes has been a matter of legal opinion. It is to be expected that production of tubes will be deemed essential for certain products, just as during the last war. Meanwhile, 1950 production reached new high levels.

Steel containers. Almost all requirements for steel containers were met in 1950. Temporary and local shortages occurred, especially during the fourth quarter, for metal drums constructed of 18-gauge and heavier sheet steel. The shortages in some cases were serious, with second-hand drums commanding a premium price. Many drum users required a deposit for the drum in excess of the cost of a new drum, in order to assure the return of the package for reconditioning and re-use. Premium prices for second-hand drums, especially on the East Coast, exceeded the cost of a new drum. Quality quickly deteriorated.

The Commerce Department reports that steel containers, including drums, pails and cans, used in the neighborhood of 8 to 9% of all sheet steel produced in 1950.

It has been pointed out that if credit restrictions on the purchase of automobiles, coupled with the effective present restrictions on aluminum and copper, should decrease automotive production 25%, then that amount of cut-back steel would be more than half that required annually for the steel-container industry.

Metal cans. For many years there has been a gradual increase in can production throughout the United States. This reflects the increasing demand for consumer food items in smaller containers by a growing population.

Production in 1950 approximated a 15% growth over 1949 and it is estimated that for 1951 steel would normally be required for can production to the extent of 3,750,000 to 4,000,000 tons, as against 3,680,000 tons in 1950.

Approximately 60% of all can production is used for food, and to supply this demand, which is extremely seasonal, advance plans are essential. Unpredictable weather represents a hazard in the forecast, but it is imperative that adequate finished-can inventories be prepared well in advance of the packing season.

It is hardly conceivable that any restrictive orders by the National Production Authority will seriously limit cans for essential food products. As shortages develop for steel and imported tin, required not only for tinplating but for solder, restrictions will very likely be placed on cans for non-essential non-food products. During World War II cans were restricted for beer, dog food, etc.

Can prices announced for 1951 show an approximate 15% increase and, since can prices are usually fixed annually as of January 1, no other major change in cost is anticipated for the full year.

Two new tinplate mills will be constructed very shortly and further increased capacities are reported for existing mills. Tin stockpiling plans have been in effect for several years and adequate supplies of tin for cans should be available for all essential needs for 1951.

GLASS AND CLOSURES

One of the bright spots in the packaging picture is the approximately 50% reserve capacity that glass makers have available. Present industry capacity is 21.6 billion units, with 1950 production estimated at 14.5 billion units. Moreover, glass-container supply could be further improved by reasonable conservation practices such as were adopted during the last war. Adequate shipping facilities would in that event become a problem, since glass takes greater space and weighs more than metal.

Glass production has not been without its problems, however. A strike in the soda-ash industry slowed production almost to a standstill toward the end of last summer and created the impression that glass itself was in short supply, leading to a flurry of inflated advance ordering. In the last two or three months, however, the glass-container industry has been rapidly working itself out of this situation. A spokesman has predicted deliveries will be normal by March.

PHOTO COURTESY KAISER ALUMINUM & CHEMICAL CORP.

NEW MAJOR PRODUCER of foil as well as basic aluminum has helped industry more than triple prewar capacity. Even so, there is a scarcity of the lustrous metal due to military needs.

Any estimates of glass-container use in 1951, however, will depend upon Government action to allocate the necessary metal and/or plastics for closures—without which a glass package is useless.

Metal and plastic closures both became increasingly hard to obtain in late 1950. Shipments during the first nine months of the year were 10 billion units, a 35% increase over the like period in 1949. Crown shipments in 1950 rose 5% over 1949 shipments for a total indicated shipment of 254,325,808 gross. Screw-thread and lug-type metal-closure shipments were far ahead of 1949. So were vacuum friction and other types of metal closures. The outlook for the packaging-closure industry is said to be bright *if* raw materials are available. One problem is production and distribution of milk-bottle closures using aluminum, which some types of milk bottles now in use require.

CELLOPHANE

This material, one of the most important in present-day packaging, has never been in bountiful supply. Expansion of use into new fields and

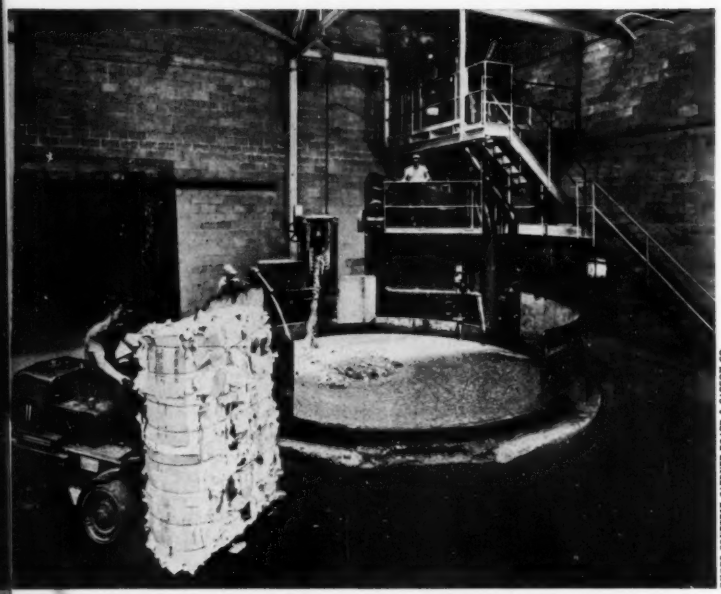


PHOTO COURTESY GARDNER BOARD & CARTON CO.

THOUSANDS OF TONS of waste materials are needed for the beaters of an installation like this hydrapulper tank. The post-Korean demand for paperboard has forced materials for reclamation into critical supply.

high-level business activity since Korea have overrun the available supply to an extent that most packagers cannot possibly get enough cellophane to satisfy their demands.

Cellophane manufacture up to now has been limited to two producers. The most hopeful sign on the horizon is the current construction of facilities for a third cellophane manufacturer—Olin Industries—with an expected eventual capacity of 33,000,000 pounds. Sylvania also is reported to have additional facilities under way. If both construction projects go according to schedule, starting to produce in the fourth quarter of this year, possibly 10,000,000 lbs. can be added to the 280,000,000-lb. industry ceiling that was hit in both 1949 and 1950. Ten years ago production was only 100,000,000 pounds.

Military needs are only a small part of production, so allocation is unlikely. So far as can be foreseen into the future, cellophane users will have to scramble for supplies.

PLASTICS

Practically every plastic material of major interest to packaging is in short supply. Output, it is expected, will henceforth be limited by defense demands for chemicals essential in plastics manufacture. Production levels rose to all-time highs in many categories during 1950—yet all production was quickly absorbed.

Many of the plastics will get top priority for military uses. Polyethylene, which grew more rapidly in packaging importance postwar than any other plastic, is slated for a number of military packaging uses—as a ply with kraft for multiwall bags and in coated kraft for small heat-sealed bags for a variety of QM and other uses. A ply of polyethylene is used in the approved Method II, flexible moistureproof and heat-sealable barrier material for use under specification ANB 20. The Signal Corps is starting a substantial program for packaging all dry cells in polyethylene-film bags. The Chemical Corps has also done a considerable amount of work with polyethylene packaging. However, the major military uses for polyethylene will be electrical and electronic.

This is bad news for the manufacturers and users of the popular blow-molded polyethylene squeeze bottles. But there is no blinking the fact that this is a luxury and novelty use of packaging, which will have to give way to hard realities. Users of plastic bottles, which reached an estimated production of 100,000,000 units in 1950, will no doubt return to glass.

Production of polyethylene resin in 1950 totaled about 60,000,000 lbs., with about 40% being used for film. There is at present an estimated 30% additional capacity for extruding film if materials can be channeled to the producers. New facilities coming in may raise total polyethylene resin capacity to 90,000,000 lbs., on an annual basis, by August of this year.

Acetate sheet and film. Acetate usage in 1950 increased not only because of a larger demand for all plastics, but because of additional and improved uses. Military demands are certain to be heavy in the future. Acetate film under 0.003 gauge increased in volume by between 4 and 5 million pounds over 1949 production. Even so, capacity is still limited. A new dry-extrusion process accounted for much of the increased demand. The extruded film seems to be headed for a big market in the prepackaging of produce and meat. In military applications the film is an essential part of an Ordnance wrap consisting of metal foil, film and wax. Additional facilities for the production of acetate sheet and film are due sometime in the early spring of this year.

Polystyrene. This plastic, most widely used for molded plastic containers and closures, was on voluntary allocation even before Korea. It has been increasingly hard to get ever since. One reason is that styrene monomer is needed for synthetic general-purpose rubber, as well as for polystyrene. As is the case with cellophane, demand keeps running ahead of increases in production. Molders used one-third more polystyrene in 1950 than in 1949. Estimates place the amount that could have been used as high as 100% additional. Meanwhile some molders fear the threat of a cut-back in 1951 to the 15-20-million-pound monthly usage that existed in 1949. The future is none too bright, even though this amount of polystyrene would supply the demand for many essential uses.

Phenolics. The situation in phenolic molding material is providing gray hairs for producers. However, with a

threatened decline in production of such products as television and radio cabinets, automobile parts, etc., it is possible that more phenolic plastics will be available by the second quarter of 1951 for bottle closures.

Urea and melamine. These resins were produced at a rate in 1950 that totaled approximately 70,000,000 lbs., a 45% increase over 1949. It is possible that there will be no shortage of urea in 1951, since additional capacity has just become available. Melamine—used in the kraft paper required for V-board and in most other types of wet-strength paper—was tight during the last quarter of 1950. Demand may ease during the first quarter of 1951, for new facilities are due to start operation, but scarcity for the duration of the emergency is the likely outlook at the present time.

OTHER MATERIALS

Inks. Ink production for 1950 is reported up about 10% over 1949. The supply is said to be fairly good, although it is felt the industry is now entering a more critical period. Titanium for opaque whites has been scarce—in fact, supply has never caught up with postwar demand. Cobalt is now restricted, although ink is not a heavy user. Odorless inks have been short due to a glycol shortage. The ink industry had a good record for developing substitutes and for holding the price line during and following World War II.

Adhesives. The future for adhesives is fairly bright. Price increases are said to have been light so far. Production rose to an all-time high of 400,000,000 pounds last year, yet reserve capacity may be as high as 25%. Supplies of some ingredients, however, loom as a problem. Some shortages of waterproof adhesives have been reported, but it is predicted that substitutes will be available. The industry's record in World War II offers hope that packagers will find adhesives supply one of the less bothersome problems.

Rubber. Total rubber consumption in 1950 was estimated at 710,000 long tons of imported crude and 530,000 long tons of American-made synthetic rubber, making a total of 1,240,000 tons. These figures are a postwar peak. Prewar production was around 650,000 long tons.

Though military requirements will rise in 1951, total use is expected to be lower than last year, principally because of reduced automobile production. Total natural-rubber stocks, it is said, should be sufficient to meet military demands over a five-year period.

There are no figures showing how much rubber is used in the packaging field, for such use is not separately recorded. The main packaging requirements are for stoppers, sealing compounds and closure gaskets—for all of which synthetic may be used—and for rubber hydrochloride film (Pliofilm) which is dependent on natural rubber.

- *Textiles.* Mounting alarm over tightening supplies and rising prices has been felt in regard to textile bags. Rising demand for cotton and burlap bags became serious in third-quarter 1950. Burlap from India has been hard to get. The switch to cotton ran into a snag of shortages and high prices. Meanwhile the reported 9,700,000-bale cotton crop for 1950 has caused further disappointment. All restrictions on cotton planting have been lifted for 1951 in hopes of producing a yield of 16,000,000 bales.

Wooden containers. Third-quarter demand for wooden containers was estimated at a higher rate than any time in the last 2½ years, with production increases averaging from 10 to 30% over 1949. Lumber production in third-quarter 1950, reflecting housing activity, was 11 billion bd. ft., the greatest for any quarter for which records are available. Restrictions on housing credit and amusement construction have since eased the demand. Supply status has improved except for some selected grades.

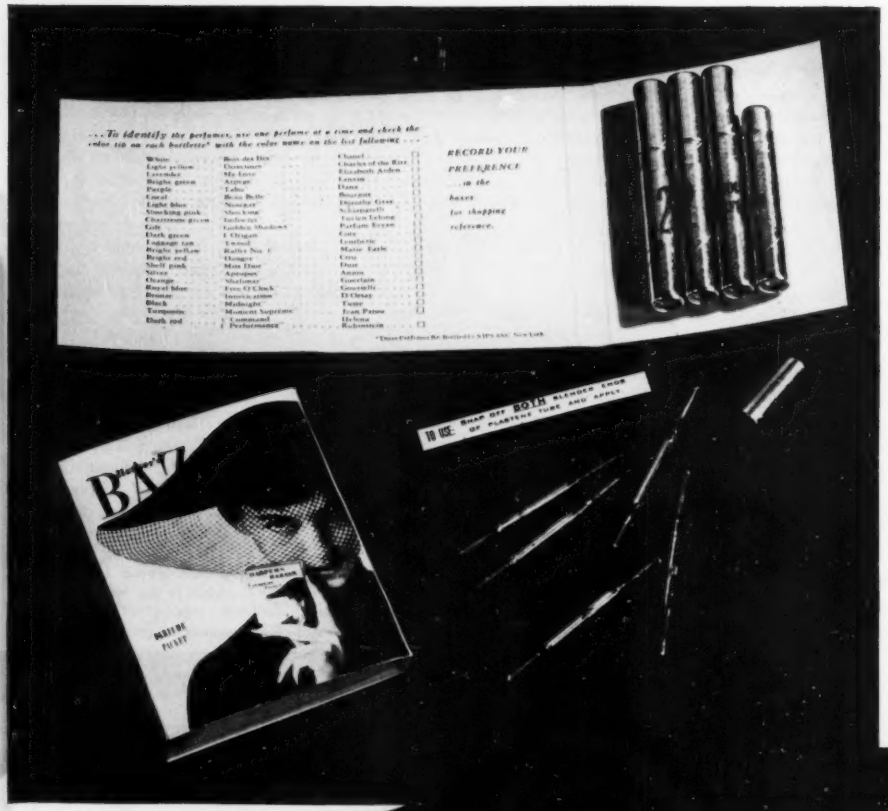
Meanwhile, demand for nailed boxes, crates, wirebound boxes and crates and veneer packages has been brisk. Price trends were upward in 1950, but the production outlook is said to be good. Bad weather could have an adverse effect on logging operations. Wire, nails, hoop steel for tight cooperage and box hardware will probably hamper production in days to come. Production for tight and slack cooperage has mounted. After

(*This article continued on page 173*)

MECHANIZATION is the only answer to the threatening labor-supply shortage. The installation illustrated below—which is the world's largest machine for the nailing of box sides—is typical of the heavy, specialized packaging weapons in America's arsenal of productive might.

PHOTO COURTESY LIBBEY-OWENS-FORD GLASS CO.

Minuscule


...To identify the perfumes, use one perfume at a time and check the color tip on each bottlette* with the color name on the list following...
RECORD YOUR PREFERENCE ...in the boxes for shopping reference.
TO USE: BREAK OFF BOTH BLENDED ENDS OF PLASTENE TUBE AND APPLY
BAZAAR
HARPER'S BAZAAR
DOUBLE PAGE

REAL DROPS of 22 famous perfumes, each individually packaged in a tiny glass "bottlette" are contained in this little packet small enough to fit in the palm of the hand. They are protected in foil-covered, spiral-wound tubes affixed to folder with cellophane tape. Scents are keyed to the colors of the break-off tips of the bottlettes.

DOUBLE-PAGE spread editorial feature described the sampling in *Harper's Bazaar* October issue, offering the sampler packets for 50 cents. Orders came in at rate of 2,000 a day.

samples

HOW *HARPER'S BAZAAR* ASSEMBLED AND IDENTIFIED ACTUAL TRIAL DROPS OF 22 FAMOUS PERFUMES IN A TINY FOLDER MAILED TO 85,000 READERS

Smartly as it dictates high fashion, *Harper's Bazaar* has styled a package that might well set an important precedent in sampling.

Through the pages of its October issue, the magazine decided to launch a perfume sampling campaign as a service to its advertisers and as a clever tie-in with the Fragrance Foundation's program to get women to use more perfume.

The major problem, however, was how to put up sample drops of not one but 22 top-name perfumes, separately identified and separately packed within a tiny little prize package that could be sent safely and inexpensively through the mails.

Nobody had an idea how it was to be done except that the *Bazaar's* promotion department was sure of one thing—it wouldn't use scented blotters. Either the magazine would offer actual liquid samples of the perfume or nothing.

Miniature vials would have been fine, of course, if the sampling had involved only one kind of perfume. But when the *Bazaar's* advertisers offered quantities of 22 of their best scents, without cost, for the sampling, conventional vials were out of the question. The cost would have been prohibitive and the size of the package would have gotten out of hand for convenient and economical mailing.

The whole project might have been given up if *Harper's Bazaar's* beauty editor had not happened to meet at a press luncheon one day a man whose company originally made and filled those tiny, almost needle-thin, flame-sealed ampoules once used for 10-cent whiffs of quality perfumes sold in the dime stores.

Could he make and fill even smaller containers, tiny enough to hold just a drop or two of perfume?

He could. And what is more, he came up with an idea for putting five or six of them in a tiny, 3-in.-long, spiral-wound telescope paper tube and affixing four such tubes to a scored paperboard book fold, so that a complete package unit safely holding 22 of the little "bottlettes" measures only 3½ by 2¾ by ⅝ in. and can be mailed in an ordinary kraft mailing envelope with nothing more than a paperboard stiffener.

But this was only the beginning. A method had to be devised for coding each of the perfume scents so that users could identify each. The tiny size of the bottlettes precluded the possibility of labeling each big enough to be read, aside from added cost. The complete package also had to be designed appropriately for a leading fashion magazine. Nothing but the smartest kind of presentation would have been acceptable.

Color coding overcame the identification difficulty. The 22 bottlettes were each tipped by dipping in enamel, with a distinguishing color keyed on the folder to a printed listing of the name of the perfume and its manufacturer. A "box score" was also printed beside the listings to record preferences and as a guide for future purchasing.

To give a luxury appearance, the paperboard tubes were covered with gold-colored aluminum foil. They were secured to the folder with inch-wide transparent cellophane tape printed in red and stating "22 famous perfumes." Even the most minute details were not overlooked to assure

BROADSIDES using the basic illustrative theme were sent to stores for the purpose of providing point of sale tie-in with the perfume-sampling promotion.

the success of the samples. A tiny printed insert was included in each tube giving instructions to snap off both slender ends of the ampoule and apply. The quantity of perfume within the tube is so small that it cannot be extracted unless both ends are opened.

The tiny little ampoules—about ⅜-in. in diameter and 2¾ in. long—are made of what appears to be glass tubing, although the supplier says it is neither glass nor a plastic, but a formulation he has adopted and calls "Plastene," which he says combines the characteristics of the two in a way that assures a safe break-off without shattering. The bottlettes are automatically filled on specially developed filling equipment and the ends are flame-sealed. No further production details are available.

Appearance of the outside of the white-glazed folder simulates a miniature copy of *Harper's Bazaar*, showing a half-tone photographic illustration of a smartly hatted girl holding one of the packets. This photograph was used as the basic illustrative theme of the entire promotion, being reproduced as a full page for the editorial feature about the perfume-sampling offer in the October issue, in a "house" page ad in the same issue and in broadside blow-ups sent to stores as a point-of-sale and window tie-in. On the folder's cover, the magazine's logotype was printed in one of the season's nail-polish reds, also used for the girl's finger tips.

The perfume packet was offered to readers for a mere 50 cents, to cover the cost of packaging and mailing, and applicants were limited to not more than two packets. The perfume, of course, cost the magazine nothing.

Each packet actually contained several dollars worth of famous perfumes at retail prices and was obviously a bargain. The response was terrific. Orders for the samples flooded in at the rate of 2,000 a day, not only by regular mail, but by airmail and special delivery. Within 26 days after the October issue was distributed, orders had been received for more than 75,000 packets. The *Bazaar* had to run a full-page "stop" ad in December: "Complete sell-out—no more perfume packets available."

Initially the magazine had anticipated requests for 50,000. With the perfumes that had been so generously supplied by the manufacturers, they managed to fill 85,000 orders—but after that there were no more. This response represented 25% of the magazine's total paid circulation— probably a record for such a promotion.

Follow-up letters were sent to stores to determine the effect of the sampling on sales, but as this goes to press it is too early to report results, which the *Bazaar* expects will come in only after holiday figures are tallied.

CREDIT: *Bottlettes, filling and assembly of packets, Nips, Inc., New York.*

Snowdrift restyles for 50th anniversary

Snowdrift, first-born product of the Wesson Oil & Snowdrift Co., has been on the market 50 years this month. In celebration of its golden anniversary, Snowdrift is appearing in a completely redesigned red, white and blue can with full-color illustrations of mouth-watering foods to be made with it.

The new package is significant in view of the role that Snowdrift has played in the development of package forms in the vegetable-shortening field and in showing how successful packages must continually be styled to consumer preferences and buying habits.

In 1900, Snowdrift was the first quality cotton-seed-oil shortening on the market. It was only natural that the company in the beginning should imitate lard-packing methods. The first Snowdrift went to grocers in large buckets or tubs and was sold in bulk.

This gave no assurance that the product would reach the consumer fresh and pure or with brand identity. By 1910, therefore, Snowdrift was being packed in covered pails of various sizes resembling lard containers. They were equipped with carrying handles—a feature that consumers liked, as they could re-use the pails.

Covered containers in convenient consumer sizes were a step toward brand and quality protection, but they fell short of protecting the keeping qualities of a perishable product. An airtight can was a necessity and in 1919 Snowdrift went to market in what was called a "tomato" can. This was a completely closed conventional can. It protected the product, but it did not receive consumer acceptance. Housewives didn't like using a can opener and objected to storing ragged-edged cans on their cupboard shelves.

In 1920 a specially designed container with a pliable tear-off strip seal was a step in the right direction, but later in the same year Snowdrift was introduced in a key-opening can —the first shortening to be so packed.

From the key-opening can to the present, few structural changes have been made in Snowdrift packaging. Emphasis today is on surface design for greater effectiveness in display. The new anniversary package is planned with that aim in mind and the design was chosen as first among four submitted for consumers' preferences.

The familiar blue serif that has been a Snowdrift trademark for more than 20 years is retained, but the name, "Snowdrift," has been greatly enlarged and is imprinted on the blue and white can in red letters. Seven eye-catching food photographs circle the entire can so that they are always visible no matter how the cans are stacked. Two complete recipes are given on each can. This virtually puts a shopping list in every Snowdrift customer's hands. The recipes vary on each can. Currently 17 different recipes are in use.

NEW PACKAGE design makes for quicker identification. Full-color illustration and recipes virtually put a shopping list into the customer's hands.

CREDIT: *Lithographed cans, American Can Co., New York.*

ON SALE, fresh, real flowers, appropriate to the day, peep through an acetate-covered window. There is choice of four colors of box base and ribbons for seasonal identifications.

ON OPENING, corsage and candies appear in separate compartments. Corsage is made up and packaged fresh daily by florists and delivered to retailer, who completes package.

Sweet and pretty

CURRIES ACHIEVES THIS IN A VERSATILE GIFT PACKAGE COMBINING CANDIES WITH APPROPRIATE FRESH CORSAGE

Change the base, choose a different corsage, tie the whole thing up with a silk ribbon—and you've got a new package for just about any holiday or special occasion that comes along.

All that and candy, too, is what Curries Ice Cream & Candy Co., Los Angeles, has in its unusually flexible package, designed as an all-purpose seasonal candy box and containing a seasonal fresh flower.

The candy pack, called Curries Corsage Candies, is a good example of a solution of candy packaging and merchandising problems wrapped up in a highly practical design. The company sells through its own retail stores.

Curries wanted a seasonal candy box which could be varied by the color of the box's base, by use of a different flower for each holiday and by various colored ribbons. Yet, it wanted to take advantage of volume box prices by making up all boxes in one order.

Variety was achieved by using four different-colored papers to wrap the bases, which are of 50-lb. news-lined board, tightly wrapped with colored flint. The flint-wrapped bases come in white, pink, red and green.

The box-lid design was kept constant, using bright gold foil paper on 45-lb. backing sheet, with a scroll pattern embossed on the foil in pink.

The box contains two removable layer inserts holding 1¼ lbs. of hand-dipped chocolates and a 6-by-6-by-2-in. filler box, covered with gold foil, which holds the various corsages. This filler box is likewise embossed with a pink scroll—with a heart design at each of the box's four corners. The filler box has a die-cut 3¾-in. square opening, through which the corsage can be seen through a 3-in. circular, acetate-covered window in the candy-box lid.

The two-compartment candy box was designed to maximize efficiency in candy filling while at the same time minimizing handling of the corsage. The two layers are filled at the candy factory and delivered to the store. Meanwhile a florist is filling the filler boxes and making deliveries of fresh flowers daily.

Flowers associated with the season are used. On Mother's Day, for instance, a corsage made with two giant, pink carnations tied with a pink ribbon was featured.

Since the ribbon which ties the box's base to the gold-foil top is an essential part of the design—and hence uniformity is desired—ribbons come to the store without bows. Bows are hand tied by a specializing firm and delivered to the store where clerks, after inserting the filler box and its corsage, simply tie the bow onto the ribbon. The ribbon is ⅝ in. wide and of variously colored silks—depending on the occasion.

For Christmas, green or red bases, red ribbon and a holly corsage are used. Easter sees a white base, pink ribbon and daffodils; for graduation, it's a white base, white ribbon and white gardenias; on Sweetest Day, white base, red ribbon and seasonal flowers; Valentine's Day, red base, red ribbon and red carnations.

The removable filler box, filled by the florist, obviates any further handling of the corsage by the salesgirl. She merely inserts the filler box into the package.

With three package variables—corsage, base and ribbon—Curries has one of the most flexible and yet specialized of candy packages—one reason why its box-goods sales have spurted.

CREDITS: *Design, Joseph Joyce, Los Angeles. Box, Los Angeles Paper Box & Board Mills Co., Los Angeles. Acetate (Lumarith), Celanese Corp. of America, New York.*

Packaging's Hall of Fame

TWENTY-FIFTH OF A SERIES

Beech-Nut

GLASSED FOODS

Ethel Merman, as the indomitable Annie Oakley in "Annie Get Your Gun," made famous a tuneful bit of braggadocio entitled: "Anything You Can Do, I Can Do Better." Undoubtedly, it would never occur to the dignified management of the Beech-Nut Packing Co. to adopt this as the company's theme song. But the fact is that from the beginning Beech-Nut's fame has been built on the company's ability to pick and choose among successfully mass-produced food products and, through product and package control, win a reputation for making them better.

This perfectionist insistence on quality, flavor and taste has few parallels in the food industry. It is one of the chief reasons for Beech-Nut's constant packaging study to protect that quality and to improve the appearance of its products—and accounts for its outstanding role in the development of glass packaging, which wins for it nomination to a place in *Packaging's Hall of Fame*.

Beech-Nut's baby food has been selected as our cover subject because it is today by far the biggest of the company's glass-packed products and because it exemplifies sound application of the particular qualities of the glass package. But the *Hall of Fame* nomination rests more broadly on the company's pioneering of the glass jar and vacuum closure for foods generally. More than any other single package user, Beech-Nut has helped this package find its proper and important place in the food-packaging scene.

Beech-Nut was not the first to pack baby foods (although it was first to use a vacuumized glass pack), nor is it today the biggest producer of this commodity. Both of these points illustrate basic tenets of the Beech-Nut philosophy. The company usually waits to determine acceptance before jumping into a new field and it abhors the idea of pushing volume to the point where quality may be impaired.

Beech-Nut officials are frank to concede that Clapp was first to produce a processed baby food and that Gerber, with full national distribution, probably ranks first today in sales. Beech-Nut is well aware that, with distribution in only half of the 48 states, it usually ranks second in national sales—and in the areas in which it does compete, more often than not is an undisputed first choice.

Baby food is a relatively new industry. It started with Clapp in 1921 and Beech-Nut did not enter the field until 1931. But when Beech-Nut did come in, it did so, characteristically, with what has since proved to be the preferred type of package. Recent consumer surveys indicating that 70.4% of mothers prefer baby foods in glass[1] have forced every major producer to switch at least a portion of its pack to the kind of package that Beech-Nut introduced 19 years ago.

Although it uses a can for coffee and other packaging materials for other products, Beech-Nut has never deviated from glass for baby foods. According to latest unofficial estimates in the trade, it ranks among the top three leading brands which are said to account for three fourths of the more than $170,000,000 baby-food market.

The genesis of all glass-packed processed foods as we know them today can be traced to a jar of sliced bacon that Beech-Nut put up in 1899. Un-

FIRST VACUUM-SEALED JARS used commercially were adopted by Beech-Nut for glass-packed sliced bacon. Early jars had Beech-Nut burr trademark molded in glass. The 4-oz. jar at right still has unbroken vacuum seal made in 1903. The portions of the label still attached to this jar are sufficient to show the early use of the famous Beech-Nut red oval.

[1] "Food for Your Child," a survey conducted by *Parents* magazine, 1948.

NOMINATED FOR PACKAGING'S HALL OF FAME BECAUSE:

- **They pioneered the vacuumized glass jar and opened up a whole new field of packaging.**
- **The company's packing history illustrates the success of a perfectionist in quality and flavor.**
- **Its glass package was instrumental in building acceptance of baby foods —a boon to millions.**
- **Its leadership in the machinery of glass packaging has given it the world's fastest production line.**

doubtedly, there had been a few dry or otherwise stable food products packed in glass prior to this time. Housewives were packing and processing vegetables in Mason jars with threaded metal caps and rubber sealing rings, just as they do today. But Beech-Nut was first to recognize the advantages of the glass jar for commercially packed foods and first to perfect a closure and a method of vacuumizing in mass production that made it possible.

The successful bacon jar was followed in 1904 by the famous Beech-Nut peanut butter—still one of the company's four big products—and Beech-Nut was well launched in the glass-packed foods business years ahead of its competitors.

Beech-Nut has always been a leader in mechanical development. Its present baby-food packaging lines, installed in 1949, with speeds up to 500 jars per minute, are believed to give the fastest sustained performance with glass-packed foods in the world today.

It started with hams

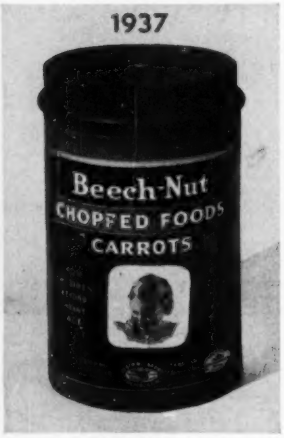
The Beech-Nut story begins with Ephraim Lipe, a New York State farmer who, in 1890, started smoking hams in a barrel over a hickory fire. Everybody smoked hams in those days and Ephraim had no idea he was doing anything unusual until his neighbors around Canajoharie, N.Y., began talking about the superior flavor of the Lipe hams. He would probably have done little more about it, but his son, Raymond, and a friend, John D. Zieley, got the idea of forming a company to sell Ephraim's hams. They took the idea to John's father—a Fort Plain, N.Y., miller and a man of some means.

Mr. Zieley said he would back the boys—John and his brother David

FAMOUS GLASS PACKAGES that have become the basic pattern for all glass-packed baby foods today. Production speeds of 500 jars a minute are fastest sustained performance with glass-packed food in the world.

BABY-FOOD DEPARTMENTS, developed by Beech-Nut in food stores, have been a big influence in boosting the sales of all baby foods to the current unofficial trade estimate of more than $170,000,000 a year.

ORIGINAL BABY-FOOD jar had a two-piece vacuum closure with a separate tamperproof ring for tearing off. The jar was of tapered shape similar to the bacon jars.



DESIGNER'S MODEL of first chopped (junior) foods package made by Arthur Allen in 1937 has same basic design as today's.

and the two Lipes, Raymond and Walter—with $10,000 provided they would take Bartlett Arkell into their company. Bartlett was the son of James Arkell, one of the town's most substantial citizens, founder of Arkell & Smiths, a firm which has been making heavy-duty paper bags at Canajoharie, N.Y., since 1858 and inventor of the machine that makes square-bottom flour bags. Apparently Bartlett looked to Mr. Zieley like a chip off the old block. If the boys had Bartlett in their business venture, Mr. Zieley felt, it should have staying power.

With the 28-year-old Bartlett as president, the ham-packing business got started in 1891 as the Imperial Packing Co. The hams were tender, but the going was tough. The Zieleys and Raymond Lipe dropped out. Imperial owed $60,000 to the Canajoharie National Bank. The only one who could meet the obligation was Bartlett Arkell, who sold his interest in a New York business to put the proceeds into hams.

Quickly he realized that the company could never survive on quality hams alone in the face of competition from the big Chicago packing companies equipped to make a lower-cost product. Bartlett Arkell, however, was never one to sacrifice quality. His answer in such situations was always a search and quick leap to other products which he was convinced his company could make better than anybody else. Among the first were glass-packed sliced bacon and glass-packed sliced beef.

The first glass package

About 1898 a glass jar made by the Vacuum Can & Jar Co. of New York was brought to the attention of the Imperial Packing Co. It provided a hermetic closure held in place by atmospheric pressure induced by high vacuum within the jar and without any clips, clamps or other mechanical adjuncts. To use it involved devising adequate machines and processes for making and sealing vacuum jars reliably, including gasket-cutting and sealing machines.

In this development Bartlett Arkell saw a wonderful opportunity for merchandising quality bacon and sliced beef. Arrangement of the sliced meat in neat strips against the glass, which became so familiar, provided a new way to present the product with highly distinctive appearance. Mr. Arkell, probably because of the cost of development work, tried to interest other packers in the development at the time. In the company files are letters to and from Philip Armour, who had been very generous in helping the boys in the proper concoction of their hams. But Mr. Armour turned down the idea after seeing a sample, saying it was "not good because of the appearance of grease of the bacon."

The tremendous success of the glass-packed sliced bacon, however, proved that Mr. Armour was wrong. For years the glass-packed bacon was a leading Beech-Nut product.

Origin of the name

The name Beech-Nut came into being quite arbitrarily. The incident is recorded in testimony given by Bartlett Arkell in a trademark case in 1922.

Albert Spencer, owner of the Saratoga race course and club house and an art collector responsible for a school of painters called the Hudson River School, was a friend of Bartlett's brother, then publisher of *Judge* and *Leslie's Weekly*.

One day in 1891 while Bartlett was in his brother's office in New York, Spencer remarked: "Bartlett, that name, 'Imperial,' is a very bad name for your company." (Bartlett had named his company after the Imperial Hotel, where the Arkell boys used to stay when in New York. They would have preferred Delmonico, after the famous restaurant of that day, but rights for the use of Delmonico could not be obtained.)

Spencer asked Bartlett to let him think of a better one. Next day he came into the office in New York and said, "I suggest that you call your ham and bacon 'Beech-Nut.' It is an exceedingly pleasant-sounding name. It will take you far afield, amongst pleasant surroundings." According to Mr. Arkell's testimony, he "bowed deeply and profusely to Mr. Spencer and said, 'The name of Beech-Nut ham and Beech-Nut bacon is adopted.'"

The Beech-Nut trade name was registered in 1891 and early promotional material shows the use of the name with a finely designed steel engraving of a beech-nut burr. The company name, however, did not become the Beech-Nut Packing Co. until 1899, when the firm was reorganized with a capitalization of $150,000 and Bartlett took $60,000 worth of the stock in exchange for his personal assumption of Imperial's debt.

Bartlett Arkell was president of Beech-Nut until 1941 and chairman of the board until his death at 84 in 1946. His influence lives on at Beech-Nut with W. Clark Arkell, Bartlett's son, as president from 1941 to 1950 and now vice chairman of the board. Board chairman is Edward W. Shineman, Bartlett's right-hand man from the earliest days. When J. Stafford Ellithorp, Jr., succeeded Clark Arkell as president last March, it was the

first time since the inception of the business that the Arkell name has not appeared as president. Mr. Ellithorp is a Canajoharie boy who grew up with the company, but, according to trade reports,[2] he represents a new generation with new and aggressive ideas about advertising and sales promotion.

During the era of spectacular food-company mergers in the '20s, Beech-Nut firmly resisted the lure of big money. It has never merged or been merged. It makes no second brands, packs no private labels, produces nothing except what it can sell as Beech-Nut quality under the Beech-Nut trademark.

Trademark and products

The familiar trademark with the red oval encircling the beech-nut burr was first used about 1896 or 1897 and is reported to have been devised by one G. H. Dunston, a Canajoharie printer, and designed by a Mr. Buchelmueller, a local artist. This trademark has remained basically unchanged to the present time, except for such details as elimination of outline printing in gold, simplification of the burr for clearer reproduction, modernization of lettering and periodic re-arrangement of copy to meet legal requirements.

Under that name and mark have appeared a long list of Beech-Nut products. After glass-packed sliced bacon and beef came lard, jam, peanut butter, baked beans, cheese, tomato products (catchup, chili sauce, juice) seafood, fish bait, gelatin, chewing gum, candy, mustard, ginger ale, macaroni, salad dressing, coffee, biscuits and crackers, cake, and strained and chopped baby foods.

Of all these, it is surprising to realize that only four lines continue—baby (strained) foods and junior (chopped) foods, chewing gum, coffee and peanut butter. Some of the products listed above never got beyond the experimental stage. Others were profitable for a time, then dropped. The thing to be remembered is that when an old standby seemed to be losing ground, Beech-Nut never hesitated to drop it and usually always had some profitable new product to take its place.

By 1905 ham and bacon had brought volume to $1 million a year. By 1915, sales had reached $5 million, largely on peanut butter, which was introduced in 1904, and chewing gum, introduced in 1911. Gum and candy, coffee (1923) and biscuits (during the late '20s) were responsible for pushing sales to $20 million in 1935. Today, the No. 1 products are the newest ones—the baby and junior foods—which since their introduction in 1931 have been instrumental in pushing company sales—as indicated by published annual reports—to a current level of about $70 million a year. The baby foods are still growing, showing a rise, according to the company, of 98% in the last three years.

There are many economic reasons for Beech-Nut's numerous product shifts, but underlying all is the basic objective of maintaining a superior level of taste and quality. Sliced bacon ended its long, successful career in World War II because the company found it could not continue selling a quality product profitably at OPA prices—although the company had earlier switched to flexible packaging after wide adoption of mechanical refrigeration in stores which meant that bacon no longer needed the protection of a vacuum glass pack. In recent years the company has experimented with soluble coffee, but dropped it because it couldn't make it better than competitors. During World War II Beech-Nut made several products at Government request—malted-milk tablets, dehydrated foods, even electronic parts—and was reported to be the largest producer of Ration K.

The baby-food baby

While at Southern Pines, N.C., in 1931, Clark Arkell stopped in a grocery store one day and asked how Beech-Nut products were going. The grocer held up a competitor's can of baby food and said, "We sell more of this stuff than all your line put together."

Back at Canajoharie, Mr. Arkell told the Beech-Nut people, "We're in the baby-food business."

It might not have been so quick as that, but it was a happy choice of product at a time when the next 20 years was to see one of the biggest "baby" booms in history. Because of its long experience in vacuum glass packaging, it was quite logical, too, that Beech-

[2] See "Beech-Nut Keeps the Kettle Boiling," *Sales Management*, July 15, 1950, p. 37.

BEECH-NUT name and burr illustration were used prior to the adoption of the red-oval mark. This one apparently was used some time during the early '90s.

PEANUT BUTTER was introduced in a vacuum jar in 1904. One of the early jars is still sealed full of peanut butter. The label, when compared with recent ones, shows how little the basic design of the trademark has changed. The 1950 package shows the recently adopted vacuum screw cap.

Early hand methods

EYE APPEAL for sliced bacon was a new attraction when these girls neatly arranged bacon strips in glass jars by hand at turn of century.

Nut should see the desirable features of the glass package for baby foods. Thus when the trend for all other baby foods then on the market was to the metal package, Beech-Nut reversed the trend with a 100% glass pack in spite of the fact that the glass package would demand a premium of one cent per unit. The company's objective was to make the finest flavored and most nutritious baby food that could be produced, using only the best grades of fruits, vegetables and meats—despite the fact that cheaper grades of all raw materials were available.

According to the company, the quality product and the see-through glass package registered one of the most rapid consumer successes on record. Beech-Nut had a strong sales story—the superior nutritional value as well as the superior flavor of a quality product—which it told in dozens of cities through women nutritionists to pediatricians, other doctors and mothers, and through advertising in medical and nursing journals as well as newspapers. And the glass package provided the advantages of eye appeal and the promotion of such conveniences as heating the food right in the container and the wonderfully easy re-seal closure for refrigerator storage. Although Beech-Nut officials state that it is not a factor in their preference for glass, most observers feel that glass also eliminates the housewife's reluctance to storing baby foods in a metal container—a reluctance which has absolutely no basis in fact, but which the can manufacturers have still not been able to overcome completely, not only for baby foods, but for many other canned foods.

The success of the baby foods has expanded the line to 42 items. This has naturally required considerable expansion of packaging facilities. Not only has the Beech-Nut product been increasingly popular in its market, but the market has grown due to record-breaking war and postwar birthrates. The baby-food market is now estimated to comprise 16½ million infants under five years old.

With more than 50 years' experience in glass packaging behind it, Beech-Nut has been in an enviable position to meet this growing demand with the installation of the fastest glass-packing operation in the food industry, based on that early principle of the vacuum seal which the company pioneered for sliced bacon just before the turn of the century.

Early glass packing

In 1898 Beech-Nut purchased the rights to use the process for vacuum packing in glass jars from the Vacuum Can & Jar Co. for $5,000 with exclusive use of it for jars of bacon at a royalty of 5 cents a case. The patents were held by W. H. Honess and W. Lorens, both of whom were later instrumental in the development of the Hartford-Empire automatic glass-making machines. At the time Beech-Nut put in its first order for four carloads of the jars, not more than 10,000 such glass packages had previously been used commercially.

The jars of bacon, arranged and filled by hand, were topped with a rubber gasket—originally made in the Beech-Nut plant—and a simple, press-on metal lid, also stamped out in the plant. The filled jars with loosely seated caps were placed in a retort where they were first subjected to jets of steam, then to jets of air, creating a high vacuum within the jar to seal the closure without the aid of clamps. The company still has in its possession a 4-oz. jar filled with sliced bacon dated 1903 with the original closure seal still unbroken.

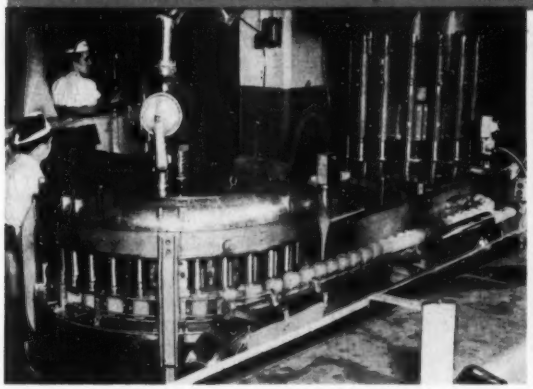
The first bacon jars were cylindrical with a shoulder and were made of bluish glass. The Beech-Nut burr trademark was molded beautifully in the glass. The first change was to a clear, colorless glass in 1900 to improve the appearance of the bacon and later a wider-mouthed jar was adopted to permit easier arrangement of the bacon in the jar, leading to the famous tapered shape used for so many years. The printed, applied paper label was also added at this time, as the tapered glass could be made more economically by pressing, which did not permit the molding of the trademark in the glass.

This jar with the Lorens closure, as it was called, was used for years until the development of the modern type of prefabricated cap incorporating the gasket as an integral part. Mechanical equipment for capping greatly speeded the operation.

Beech-Nut also early employed similar methods for glass packing of peanut butter and today is still one of the few companies using a vacuum closure for this product. Its recently adopted screw cap on peanut butter gives greater consumer convenience, Beech-Nut believes, but it is applied by a screw-cap, vacuum-capping machine similar in principle to those used in wartime for the vacuum screw-cap closure on glass-packed coffee. Peanut butter has reasonably long shelf life without a vacuum seal, but Beech-Nut—ever meticulous about flavor and quality—is convinced that the vacuum seal is a worthwhile guarantee that its product will reach the consumer fresh and flavorsome.

Beech-Nut's first jars of baby foods looked quite different from the present ones. The original jar was of a tapered

Today's high-speed production lines



HIGH-SPEED FILLER and vapor-vacuum capping operation on today's glass-packed lines—most advanced in the food industry.

HUGE MAGNETS lift the baby-food jars from the revolving collection table (left) to retort baskets.

shape similar to the bacon jar in miniature, holding 4 oz. The cap was of two-piece construction with a tear-off, thumb-tabbed aluminum ring to make it tamperproof. The label showed full-color illustrations of three cuddly babies, above which was a light blue panel carrying trade and product name in large type and a small reproduction of the red-oval trademark. The two-piece closure feature was eventually replaced, because of its cost, by the vacuum pry-off type and the jar form was changed to the straight-sided design which is more efficient for handling in high-speed production. This jar was originally a Beech-Nut private mold, but is now used generally as a standard baby-food jar.

The three-baby label illustration was replaced by a one-baby design with trade and product name given more emphasis on a wide center strip, below which the Beech-Nut trademark has greater visibility on a deep blue background. The original label for the chopped, or junior, foods was created by that revered father of package design, the late Arthur Allen, and today's label for the junior foods retains the same basic elements of his original design—with dark blue background to distinguish it from the strained foods, but simplified by elimination of original background cross-hatching and outline border, and the minor re-arrangements always necessitated by changing informative and mandatory data.

The development of Beech-Nut's ultra-high-speed glass packing during the past two years—now operating in three modern plants at Canajoharie, Rochester, N.Y., and San Jose, Calif.—has been hailed as the longest stride forward in the progress of glass food packaging.

High-speed lines

At the core of the development are the 21- and 30-head piston fillers—and also rotary fillers using the vacuum siphon principle—which are handling successfully a wide variety of strained and chopped foods at rates as high as 500 five-oz. or 450 eight-oz. jars per minute,[3] plus the unscramblers, sterilizers, vacuum cappers, conveyor systems, magnetic lifts and labelers to accommodate this production.

Cases of empty jars are unloaded manually on an unscrambler and carried in single file by conveyor past two inspectors before going into a washer for sterilization. There they are picked up on the filler in-feed conveyor, past a second inspector, and move into the filler.

In the piston fillers, the product is drawn by a downward stroke of the piston into an open-topped cylinder at the bottom of the filler bowl. The top of the cylinder is closed by a cut-off plate while the upstroke of the piston forces the material into the jar. A special feature is the by-pass, activated by the no-jar, no-fill mechanism, permitting the product to be returned to the filler bowl if no jar is present under the spout. A jar-handling device cuts down slack.

A straight-line tangent take-off removes the filled jars to the capper. A coder imprints a code number on every jar cap, after which the jars are collected on a revolving table from which they are swiftly loaded by a magnetic pick-up into the retort basket. After processing, the jars travel through a cooling canal and are finally unloaded by another magnetic unit for transportation to the drying and labeling units, which are of conventional design. Cases are automatically loaded, but unsealed—for a special reason which reveals the care with which the Beech-Nut baby foods are packaged.

Cases are left unsealed for two or three weeks to allow any possible capping flaws to develop. Then each jar receives a unique inspection. A visitor in the warehouse is mystified by gentle tapping sounds, which can be traced to dozens of girls using sticks of wood, or "drumsticks," to tap the cap on each jar. A perfectly sealed jar has a clear ring, while a faulty seal will produce a "dead" sound.

Other products

Independent sources indicate that about $30 million of Beech-Nut's annual sales volume are in chewing gum and although Beech-Nut trails Wrigley, with whom the American people spend about half of their $250-million outlay for chewing gum,[4] it is neck-

[3] See "Baby Feeder," MODERN PACKAGING, June, 1950, p. 130.

[4] See *Sales Management*, July 15, 1950, p. 41.

1950 PACKAGED LINES—stick gum and Beechies, baby and junior foods, coffee and peanut butter—bring Beech-Nut volume to $70,000,000 a year.

and-neck with American Chicle for second place, the three companies managing to hold practically the entire market.

Today the company markets seven flavors of stick gum, the newest—"Mello-Fruit"—having just been introduced this year with the help of store display and minute movies. It produces four flavors of Beechies, candy-coated gum, and a variety of flavors in one-cent Beechie packs. During the depression years, gum was the most important single factor in keeping the company out of the red.

Hills Bros. began vacuum packing of coffee in San Francisco in 1903; thus Beech-Nut's coffee tin was nothing new when the company started in the coffee business in 1923. But here again Beech-Nut always has been able to do a good business on quality and taste in spite of the huge volume sales of its bigger competitors.

Advertising support

Beech-Nut began national advertising in 1911 and advertising approaches have been as varied as the products, but no matter how the budget has been scattered, advertising has always had the one big advantage of emphasis on a single name—Beech-Nut—and its reputation for quality. None of the company's products has ever been sold under any other name.

The company has been consistent in its use of weekly "reminder" newspaper space for coffee and foods, with baby-food and coffee insertions on different days every week in about 175 dailies in the East, Midwest and South last year. This year, under Mr. Ellithorp and an advertising committee composed of himself, Robert J. Hooven, vice president in charge of sales, and Ralph Foote, advertising manager, a new magazine campaign has been launched for baby foods, photographically illustrated with babies, and a cartoon series on coffee. The ads are running in *Parents'*, about 10 baby magazines, *Woman's Day* and *Family Circle*.

Gum advertising and promotion was increased this year. In 1949 it ran frequently in color in 30 magazines, 90 college papers, 15 business papers, Negro publications and spots on 250 radio shows.

Currently eight- and 20-second singing spots are being used four or six times a week on 58 television and 163 radio stations. In developing Negro markets for gum, in which field Beech-Nut claims a two-year start on competitors, the company is using 15 Negro newspapers, two Negro magazines and a spot radio program.

The company has always been a big user of sampling and educational activities. Many will remember the Beech-Nut miniature circus that went around the country on trucks, the Beech-Nut girls, dressed as drum majors, giving out samples of gum and Beechies—and the Beech-Nut building at the New York World's Fair where the circus was presented and visitors got free coffee and a stick of gum. As many as 90,000,000 sample sticks of gum have been given away in a single year.

The success of the glass-packed baby foods was in no small way attributable to the company's extensive educational program through nutritionists and their personal contacts with doctors and mothers. And last year the company used more than 4,000,000 jars of baby foods in sampling mothers through its direct-mail promotional program. The company's activity in developing baby-food departments in food stores was another strong factor in building not only Beech-Nut, but baby foods generally.

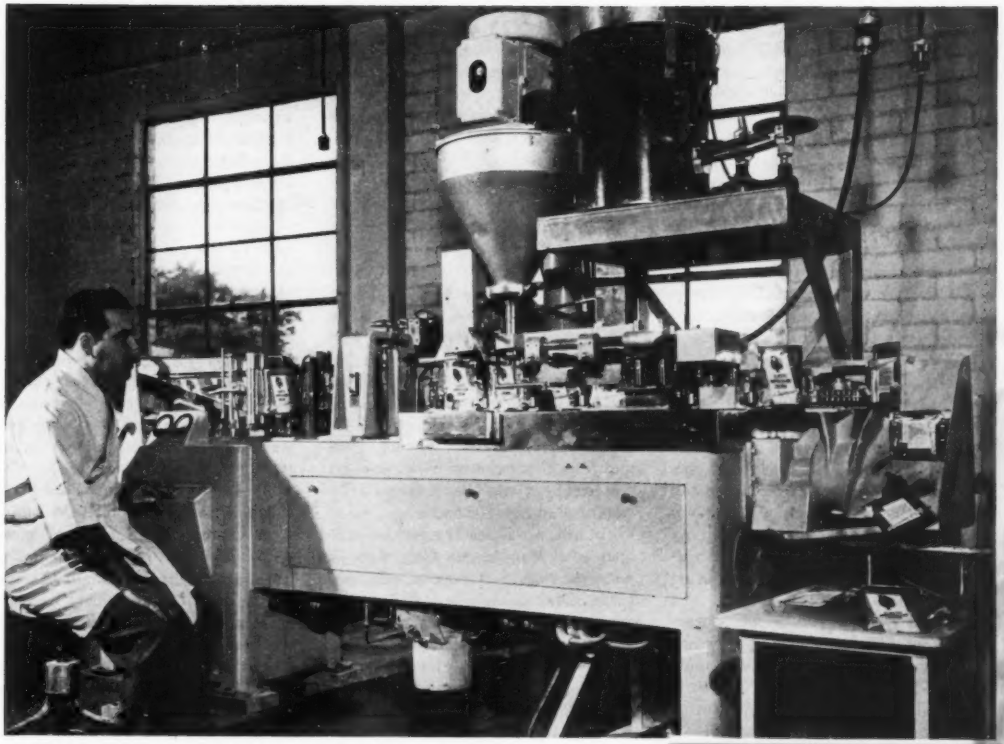
Although no actual figures are available, *Fortune* magazine in 1936 estimated that Beech-Nut appropriations for advertising and promotion ran in excess of $1,500,000. Other published sources show that in 1949 Beech-Nut spent nearly a million dollars for newspaper space and almost another million for magazines. This $2 million, however, does not include radio or television or the educational and promotional activities, which are sizable.

Trade relations

Also a contributing factor to Beech-Nut's success is its long record of square dealing with the trade. Beech-Nut can be counted on for assistance in setting up and maintaining baby-food departments in all types of stores, including the regular rotation of all items. The company food-product discount terms of 2% within 30 days have been in effect for 20 years. Prices are protected against decline for 30 days, also a policy in effect for years. The retail shelf price is paid for merchandise picked up in stores and the company attends to prompt handling of fire- and flood-damaged packages.

While Beech-Nut's food-sales area was formerly national, it now embraces but 24 of the 48 states—the East; the Midwest to the Mississippi, excluding Minnesota; Northwest Wisconsin and Southern Illinois; the Southeast, except Alabama and Mississippi, and California, supplied by the new San Jose plant. Beech-Nut does not say it

(*This article continued on page 166*)



OPERATION IS AUTOMATIC, from the feeding of preprinted pouch material from the rolls at left to the forming, filling, sealing and discharge of the finished packages emerging at right, at the rate of 50 per minute.

Precision pouch maker

COMPACT NEW MACHINE FILLS POWDER IN HEAT-SEALED, FOIL-LAMINATED ENVELOPES WITH UNUSUAL ACCURACY

False teeth are responsible for the first example of use of a new pouch-forming, -filling and -sealing machine that promises to have wide utility in the packaging field.

The Dental Perfection Co., Inc., Glendale, Calif., manufactures, among other dental specialties, an alginate-base impression material which is used by dentists everywhere in taking impressions of the mouth for the purpose of making dentures, bridges or inlays. The white powder, when mixed with water, makes a moldable plastic material of pleasant taste and texture, far more efficient—and far more agreeable to the patient—than the plaster-of-Paris once used for such purposes.

The product, called D-P Elastic Impression Cream, is highly hygroscopic and is packaged in envelopes formed of a heat-sealable lamination of aluminum foil, Pliofilm and imitation glassine. Each envelope must contain exactly 21 grams of the powder, this being the precise amount required, when mixed with a stated

COLORFULLY PRINTED envelopes—bright red, black and white against the foil surface—are packed 12 to a set-up box along with directions and a molded plastic vial for measurement of water. The box is covered with printed-acetate laminated paper and overwrapped with clear cellophane.

amount of water, to provide impression material of the right consistency and in an amount sufficient for a full upper or full lower impression of the mouth. Since it "sets up" rapidly after mixing, a fresh batch of material must be mixed by the dentist for each impression.

So particular is the company about the accuracy of batch measurements that it provides, in each box of 12 envelopes as supplied to dentists, a vial —injection molded of cellulose acetate butyrate in the company's own plant— holding exactly the right amount of water for mixing with the contents of each of the envelopes.

For some time weighing and packaging of the powder had been a semi-automatic operation. Printed, foil-laminated pouches were obtained in prefabricated form; crews of girls scooped powder into the pouches and weighed them on precision scales and the closure was made with a small bar heat sealer. Production was approximately 1,200 pouches per hour, using seven girls.

About a year ago it became apparent that increasing demand for the product was outstripping both capacity and cost limitations of the hand method and the company started looking for a suitable machine.

Dental Perfection officials decided that they might as well carry mechanization to the limit and install a machine that would take the pouch material from a roll and discharge filled and sealed packages. Various machines encompassing these operations were investigated and the newly developed machine was decided upon because it would, the company felt, meet its requirement of ½-gram tolerance, plus or minus, in the filling of each envelope.

The company also was impressed, it says, with the simplicity and compactness of this machine, which operates off a single main driveshaft, horizontally placed, all of the various operations being actuated by cams on the shaft. The entire machine is mounted on four castered wheels and can thus readily be moved and the floor and surroundings kept spotlessly clean.

Package material and operation

The package material is laminated and printed as formerly, but is now received as a 50-lb. roll of web stock. The lamination includes 0.00035 aluminum foil, 24-lb. imitation glassine and 120-N2 Pliofilm.

The operation starts with the placing of the roll on a reel at the left end of machine. After passing over and under three guide bars, the web travels under a V-shaped folder that brings the two edges together in a single lateral fold down the middle.

Electric-eye control insures the positioning of each package portion for subsequent operations. The first step is the sealing of the two sides and bottom of each pouch by bar heat sealers operating on a rocker motion. The bottom of the web fold actually makes the bottom of the pouch, but it is heat sealed as an added precaution.

Vertical knives then cut off the individual pouches at each side seal and from that point on they travel on a continuous conveyor, gripped by clamps at the right-hand edge.

To insure that each envelope will open readily under the filler, there is an intermediate station at which a blade slides down vertically into the top of each envelope, for a pre-opening, and then withdraws.

At the single-spout filling station, rubber suction cups on each side grip the top of the envelope and hold it open while the filler mechanism drops its accurately weighed portion of powder within.

Any standard filler may be used with the machine, the choice depending upon the type of product and the accuracy required. In this case the filler has a positive auger discharge. The filler hopper is continuously supplied from a closed duct leading from a bulk hopper on the floor above, thus minimizing dust from the finely ground powder on the filling floor.

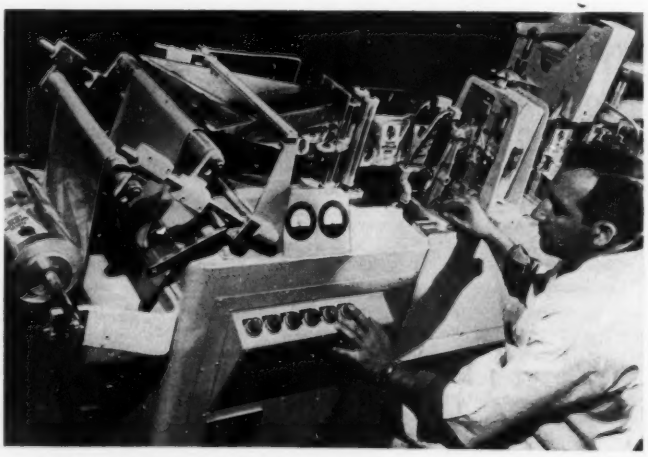
The filler is of a recently developed type having electronic control of the electrically driven auger to provide exceptional accuracy of fill—usually within a 2% tolerance by weight, it is claimed.

The filler is designed with interchangeable parts that can be detached from the base in a minute's time and therefore it is unusually easy to clean. Auger speeds are adjustable to the type of material being filled.

As the filled envelopes leave the filling station, air is pressed out of them by two sets of flat metal plates and the top heat seal is then applied. The final step is the automatic application of a code number, which is embossed on the top heat-seal fin of the envelope.

At the end of the machine the envelopes are automatically released from their traveling clamps and drop down a chute directly to the discharge table.

Presently they are carried in tote boxes to the box-packing station; later



FEED END of the machine shows the web of foil-Pliofilm-paper material which is quickly folded over, the sides and bottom heat sealed (at a point in front of the operator's right hand) and then cut off at the next station prior to being filled. Heater-indicating lights, switches and the start-and-stop buttons are shown in the center of photo, at the operator's left hand.

it is expected that a conveyor belt will handle this step.

At the packing tables girls inspect the envelopes and place them 12 at a time in full-telescope, set-up boxes, along with the plastic measuring vial and the instruction sheet. Boxes are then overwrapped and heat sealed in clear 300-MST cellophane, using a conventional type of semi-automatic machine.

A single operator attends the pouch-filling machine, in place of the seven girls formerly required. The machine's output averages 2,500 pouches per hour, 50 per minute, and the labor-cost saving per package is estimated in the neighborhood of 33⅓%. An additional saving of about 25% per package is achieved by purchasing the package material in roll form rather than buying the packages in prefabricated form.

The pouch machine can use any material—film, foil, paper or lamination—that is heat sealable and can be supplied in roll form. With the use of the proper filling attachment, which is interchangeable, it can handle solids, liquids, powders or multiple items, filling them by count, by volume, by auger or by special feeders. According to the machine makers, the machine has recorded a speed of 36,000 packages per 8-hr. shift in some applications.

The Dental Perfection Co. believes that the convenience and accuracy of its premeasured, packaged, single-use quantities—as well as the exceptional moisture protection provided by the foil-laminate envelope—have been instrumental in building acceptance of its dental impression powder to the point where it dominates the market for this particular item.

Design features

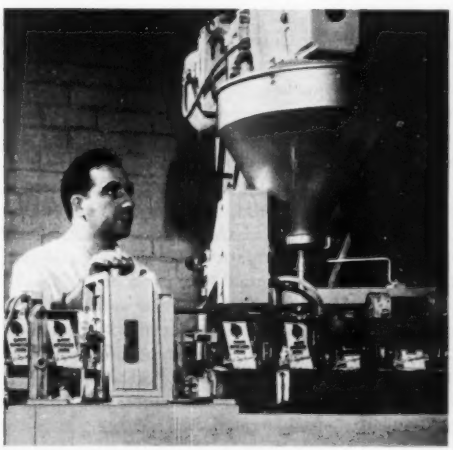
The company also believes firmly that a package for a professional product need not appear stodgy. The package never sees a retail shelf or counter; the product is ordered by dentists from supply houses in dozen or multi-dozen lots—yet the brightly printed, foil-surfaced envelope would rate, design-wise, right up with similarly packaged impulse items in a supermarket.

The pouch is rotogravure printed in three colors. A broad, vertically slanting white panel on the face flanked by parallel white lines, carries the Dental Perfection trademark (a black "D" and "P" against a red bull's-eye), the identification "Elastic Impression Cream" and the bright slogan, "for best impressions," in red script across the bottom. The back panel repeats the slogan and trademark and carries directions and the required legal information which is printed in black and red against a large square white panel.

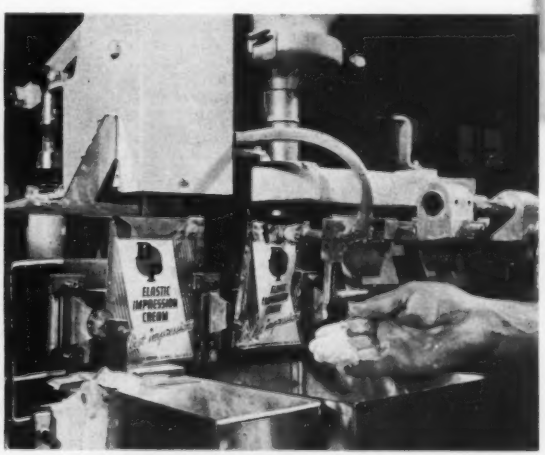
A merchandising sense is displayed also in the design of the butyrate measuring vial which goes in the box with each 12 envelopes. The directions tell dentists that the mixture will set up fast at a room temperature of 75 deg., with medium speed at 70 deg., and slowly at 65 deg. Since this is important to proper use of the impression cream, they are reminded of it by an embossed design on the side of the vial in the form of a thermometer, of which the "DP" trademark forms the bulb. The reverse side carries graduated lines for full and half measure.

So conscious is the company of the quality impression of its package that it covers its set-up boxes with a glossy acetate-laminated paper, printed on the reverse side of the acetate. Colors are red, black and buff, against the white paper.

CREDITS: *Machine, Bartelt Engineering Co., Rockford, Ill. Filler, G. Diehl Mateer & Co., Devon, Pa. Printed pouch stock, Shellmar Products Corp., Mt. Vernon, Ohio (from South Gate, Calif., plant), using Kaiser aluminum foil, Goodyear Pliofilm and imitation glassine by Westfield River Paper Co., Inc., Russell, Mass. Set-up boxes, O. E. Clark Paper Box Co., Vernon, Calif., using "Shell-Pli" wrapper by Shellmar. Corley-Miller wrapping machine, Miller Wrapping & Sealing Machine Co., Chicago. Cellophane, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.*



WEIGHER AND FILLER is of the precision auger type, continuously fed from a bulk hopper on the floor above. The envelope under the filling spout is held open by suction cups while it is filled with 21 grams of powder. Accuracy is within a tolerance of less than ½ gram.



FILLING CLOSE-UP shows first package (left) being pierced by blade to assure opening; vacuum cup holds second package under filling spout. Packages held in clamps on right side then move through compression blades, which squeeze out air, and to final top heat sealers. Powder in hand indicates product consistency.

Increased display impact for cameras and accessories

Greatly improved identity and display value are gained by Busch Precision Camera Corp., Chicago, working with its advertising agency in the redesign of packages for its line of quality cameras, reflectors, film pack adapters and related accessories. The former plain red boxes with foil labels limited display opportunities at the retail outlet. The new boxes tastefully combine light red and jet black with reverse white lettering. Stylized line drawings facilitate customer selection. The red background panel for the drawings extends down the left and right sides of the cover. Manufacturer's name, prominently featured on top, also appears on all other surfaces of the cover. Color selection and clean-cut design reflect product quality. All packages are set-up boxes except one small folding carton.

CREDIT: *Eagle Paper Box Mfg. Co., Chicago.*

Gotham boxes are given more feminine look

NEW

OLD

In modernizing the box wrap for Gotham Gold Stripe hosiery, Gotham Hosiery Co., Inc., wanted an up-to-date design that would retain a recognizable tie-in with the former package, long familiar to women shoppers. The new wrap retains the black and gold color scheme, with the addition of turquoise blue for feminine appeal. Instead of the former plain gold paper, an embossed gold resembling the actual texture of hosiery is used. The tissue wrap inside is turquoise blue with an over-all repeat pattern of the words "Gotham Gold Stripe" in gold. An inner paper band in black and gold repeats the design motif used on the box cover. To add delicacy, a narrow band of stripes replaces the old wide band behind the modernized trademark. A vinyl coating applied to the wrap gives the surface maximum gloss and protection from scuffing. Ends are uncoated for rubber stamping stocking sizes and colors for easy identity when stacked on retail shelves.

CREDITS: *Design, Thomas D'Addario, New York, Wraps and bands, Consolidated Lithographing Corp., Brooklyn.*

HISTORIES

Savings plus greater appeal

Labor costs have been reduced 70% and printing costs have been cut more than 50%, according to Rowles, Inc., with the introduction of this new display container for Kleen Kit, holding three special solutions for stain removal. The original package contained eight components (two-piece box, two inner pads, collar, divider, instruction sheet, outer label), whereas the new one has two pieces—carton and divider. The company also reports increased consumer acceptance of the product and a marked increase on the part of wholesalers and retailers to handle it. The new container tells at a glance what the product is, encourages the dealer to display it and invites consumer attention.

CREDITS: *Display box, Utica Box Co., Inc., Utica, N.Y. Bottles, Hazel-Atlas Co., Wheeling, W.Va. Mohair closure and cap, Products Packaging, Inc., Cleveland, Ohio. Labels, Advertisers Service, Utica, N.Y.*

Plastic press-ups from France

A plastic container called the Otic box made in France has a new type of fastening that is said effectively to resist opening from pulling, unscrewing or banging against a hard surface.

Made of phenolic or polystyrene in colors, the containers have a raised ring which runs three-quarters of the way around the underside of the cap, making a tight-grip lock that responds only to thumb pressure as designated (*pressez ici*) on one edge of the box. The containers can be round or square in shape and either opaque or transparent. The closure has also been developed for small glass jars. For general use, the closure is said to be both airtight and watertight, offering possibilities for pharmaceuticals and foods, as well as for cosmetics and notions.

Items now being sold in the Otic box include throat tablets and typewriter ribbons. The containers, of course, are valuable for a variety of re-use and novelty purposes.

CREDIT: *Otic box, Novoplast, Paris, France.*

VERSATILE IN-LINE CARTON MAKER

DU PONT
DUCO CEMENT
HANDY HOME & SHOP ADHESIVE
CLEAR WATERPROOF FLEXIBLE
FOR CHINA WOOD METAL GLASS PAPER AND LEATHER
DUCO CEMENT MENDS NEARLY EVERYTHING

1. FIRST PRODUCT of new machine fully demonstrationg its capabilities is new Du Pont carton having brilliant, dense ink solids and hair-line register in all four colors on 12 fine-detail illustration spots.

Certain to create a stir in packaging and merchandising circles is the appearance this month of redesigned cartons for that old household standby, Du Pont Duco* Cement.

The improvement in design is apparent and striking. An unimpressive two-color scheme of dark green and red on white has been replaced by four-color rotogravure printing producing brilliant solids of aqua, yellow and red and extraordinarily fine detail and tone in the tiny suggested-use illustrations bearing out the famous slogan: "Duco Cement mends nearly everything."

But behind this outward change, Du Pont officials have disclosed, is the story of a mechanical development which appears to have carried folding-carton production forward to a new high level of combined quality, economy and versatility.

The Duco Cement carton is the first exemplary product of a new machine (Fig. 2) that has been the objective of research and development in the graphic arts field for more than 20 years. For the first time, this machine provides—in a single pass of roll-fed stock through a single, continuous, in-line operation—multicolor rotogravure printing, cutting, flat-die creasing and automatic stripping and the discharge of finished folding-carton blanks ready for immediate set-up and use.

Previously, folding-carton manufacture has been a three-stage operation: (1) printing, often with multiple passes through the press for multiple colors, (2) cutting and creasing and (3) stripping. Some of these operations have recently been combined on continuous equipment of various types. But cutting and creasing dies were of the expensive, rotary or true male-and-female type—so costly that the equipment could economically be used only on long, continuous runs of a single carton. And, till now, stripping of waste always had to be a separate—usually hand—operation.

The secret of the all-in-one operation of the new machine, the versatility and economy of which make it of interest to all packagers using folding cartons, lies in two things: (1) perfection of a mechanism for shifting from continuous to intermittent feed at the point where the web enters the cutting and creasing unit, thus permitting the use of flat-bed steel-rule-and-furniture dies at a fraction of the cost of rotary dies and (2) development of an ingenious continuous rotary stripping mechanism.

To the large carton user, in addition to the over-all cut in carton costs through elimination of a separate stripping operation, this means freedom to make changes in carton design or size without the expenditure of large sums for new dies. To illustrate: The 10-pack carton for a leading brand of cigarettes recently was modified very slightly, moving a cut-out section of the design approximately 1⅛ in. to one side. This involved the outlay of $15,000 for new rotary cutting dies on the three machines then producing the cartons. On the new machine, it would have cost about $7.50 for a minor change in the dies. Completely new dies for this machine, for such a carton, would cost only $85 to $90.

To the small carton user the new machine offers the possibility of many benefits in addition to those cited above. In the case of a small run (and the average carton maker considers anything less than 1,000,000 boxes a small run), the cost of down time for make-ready and clean-up becomes excessive; this is drastically reduced with the new machine. Shifting from one job to another becomes so quick and easy for the printer that the small user gains something close to the economy of the large user's continuous run. Furthermore, the small user may have a wider choice of suppliers, since the large printer will no longer be inclined to shy away from short-run jobs, and need not tack an excessive price penalty on them.

A comparison of the old and new production methods on the Du Pont carton will be illustrative. But first, a word as to how the change came.

Cooperative pioneering

The printing-equipment manufacturer, who had had this new machinery under development for several years,

*Registered trademark of E. I. du Pont de Nemours & Co., Inc.

LOW DIE COST, AUTOMATIC STRIPPING, QUICK CHANGE GIVE A GENERAL UTILITY TO QUALITY-WITH-ECONOMY METHOD PREVIOUSLY RESTRICTED TO SPECIALIZED LONG RUNS; NEW DUCO CEMENT CARTONS SHOW ITS ADVANTAGES

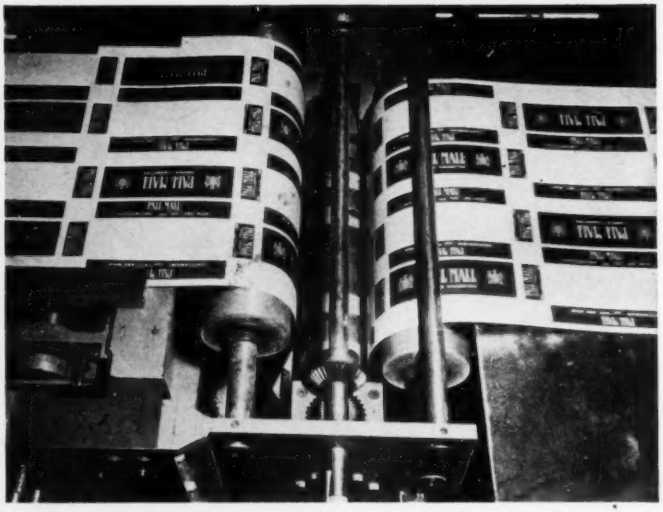
2. OVER-ALL VIEW of push-button machine, showing (right to left) roll feed of carton stock, four rotogravure stationary cutting-and-creasing unit, automatic stripper and kick-out of the finished cartons to the delivery belt.

found, in Downingtown, Pa., a small, quality carton maker who was interested in expanding his business through the use of such high-speed, all-in-one, multi-purpose equipment and who was willing to risk something over $100,000 on the installation. He, in turn, found at Du Pont—to whom he had not previously been a supplier—a receptive ear for his story of what the machine would do in providing quality with economy. The faith and cooperation of these three firms—plus that of the American Tobacco Co., whose Pall Mall carton was the first actually to be run on the machine—made the development possible.

Previously the Du Pont Duco Cement cartons had been produced by another supplier—one of the largest in the folding-carton field—using conventional letterpress equipment. In this type of operation, for a four-color job such as the old Du Pont counter carton, sheets have to be run twice through a two-color sheet-fed press; then through a separate sheet-fed cutting and creasing press, finally through a hand-stripping operation. Approximately 40 hrs. of make-ready time are usually required before a run can even be started and, as a rule, two days' drying time is necessary on letterpress work before cartons can safely be handled.

At Downingtown the plates for the

3. COMPARISON of old and new merchandising units shows sharply increased display value of the new design, specifically developed to take advantage of the new printing process. The new four-color rotogravure printing—featuring strong solids of magenta—replaces letterpress printing on old cartons at a reported 30% saving in this case.



4. SHIFT OF MOTION from continuous to intermittent is apparent to the camera at this vital point where the printed web slacks before feeding, in precisely metered lengths, into the flat-die cutter at the left. The crank in the foreground of the photograph adjusts the cutting register, one turn equalling ⅛ in. The two-color printed Pall Mall cigarette carton was the first one actually run on the new machine.

Equipment incorporated in the machine (reading from right to left in Fig. 2) includes: Double-reel stand with hydraulically controlled constant-feed mechanism, handling 26-in.-wide cartonboard in rolls up to 60 in. in diameter; angle-roll stand with auxiliary-feed unit for side alignment of the web and metering of the material to the first rotogravure color station; four standard 26-in. rotogravure-printing units in series, each complete with fully enclosed ink fountain, 360-deg. running register color-correction control and air-system dryer; pull unit with variable drive for maintenance of web tension throughout the four-color stations and for further metering of board stock to the cutter and creaser; stationary cutting and creasing unit; variable automatic-stripper device with scrap-disposal system; carton kick-out mechanism and slow-moving belt delivery.

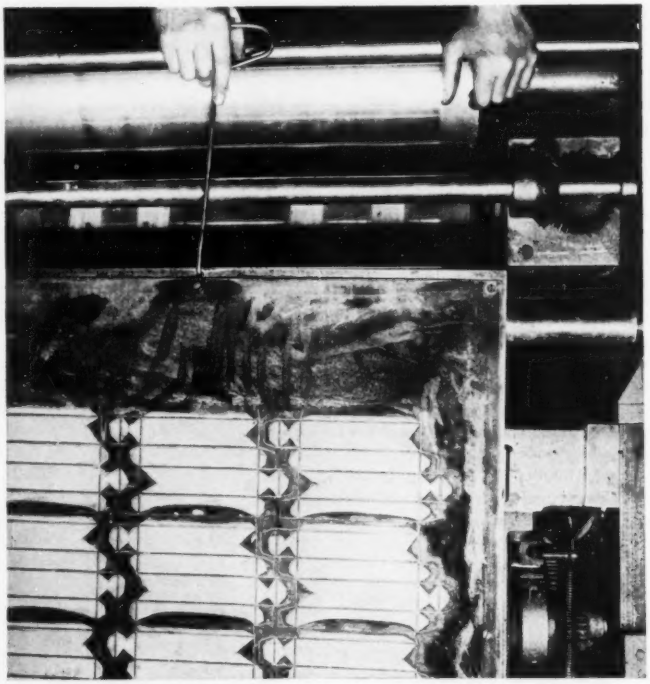
Rolls of stock running from 10,000 new cartons were received at 2 a.m. on a Saturday and the first finished cartons were shipped to Du Pont the following Monday morning. A total of 60 hrs. of press time, including 14 hrs. of make-ready, was required to produce the first run of 2,000,000 cartons.

With previous methods, 3,000,000 cartons a month on one-shift operation was considered good production. Now, on the same basis, the Downingtown plant is turning out an average of 300,000 a day, or 9,000,000 a month for various customers.

More important to Du Pont is the fact that it is obtaining a quality of printing impossible to achieve by the old method—and at a net saving estimated, in this particular case, in the neighborhood of 30%.

Details of operation

In a typical seven-day period recently the machine handled three different jobs, demonstrating a flexibility previously unheard of in high-speed rotary equipment. Finishing up a run of 3,000,000 Pall Mall cigarette cartons at the start of the week, it turned to the Duco Cement counter carton and produced 170,000 of them in two days. Plates and dies were changed and in another four days it had turned out 2,000,000 of the Duco Cement individual-tube cartons. By the end of the week it started on a new Pall Mall run of 4,500,000.



5. LAYOUT PATTERN for Du Pont unit carton is indicated in this view from above of the flat female bed of cutting press. Paper paste-ups provide creasing channels; other lines result from superficial polishing action of steel cutting rules held in simple steel-rule-and-furniture male die in head above (not shown). The cutting and creasing dies in the upper head of the punch move down in an eccentric action against the sheet on the cutting plate. Set of dies costs under $100.

to 15,000 ft. in length are supplied by a nearby, affiliated board mill. The double-reel stand provides for a reserve roll, which is always ready for splicing with only momentary (30 sec.) interruption of the run. The stock used on the Du Pont job is white patent-coated news, of 0.022 weight for the unit carton and 0.025 for the counter carton.

The rotogravure press is equipped with the latest, advanced type of automatic electronic color-register control on each unit to provide the finest precision work with a minimum of make-ready and adjustment.

The carton cutter and creaser operates with a straight reciprocal motion and maintains a momentary stationary position during each cutting and creasing movement. Consequently, feed and delivery mechanisms function intermittently and are timed to convey a predetermined amount of web to the cutter and creaser, and simultaneously deliver from the unit a corresponding length of web.

The intermittent action at this point (Fig. 4), which holds up the web momentarily while each cut-off section ahead of it is blanked out under the die, represented the most ticklish engineering problem of the entire set-up. This mechanism is of a new design, mechanically unique, and was developed through the combined efforts of the carton maker and the machine builder.

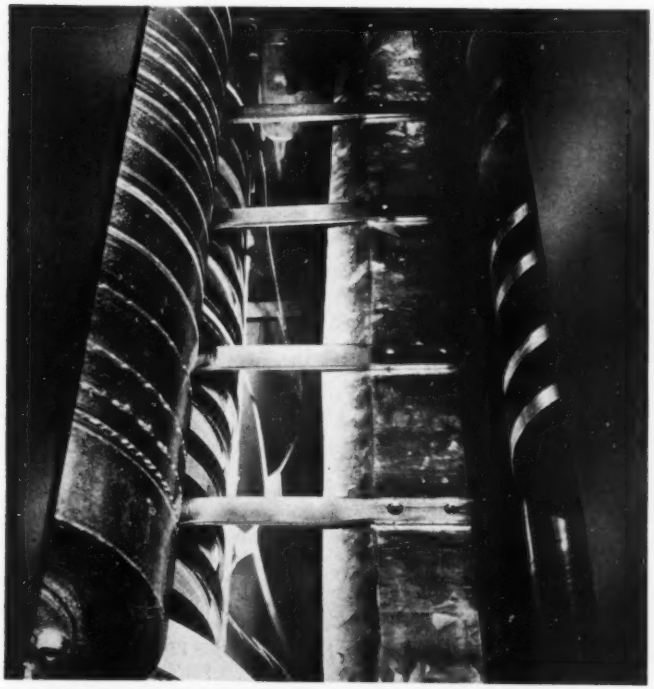
The cutter operates within a tolerance of 1/64 in. It was this exceptional accuracy which made possible the use of flat-bed dies in the in-line operation—never before attempted, so far as is known, on printing of rotogravure quality.

The cutting and creasing dies, simply made up of standard steel rules and wood furniture the same as in any ordinary cutting press used for years in sheet-fed work, are in the upper head of the punch, which is moved down by an eccentric action against the sheet positioned on a hardened steel flat female cutting plate (Fig. 5). With this action, all cuts and scores on the entire sheet are made simultaneously, rather than progressively as on a rotary die. The flat die is, of course, inexpensive to build (seldom running over $100), easy to repair and inexpensive to change.

The blanked-out sheet moves out over the ingenious synchronized stripping cylinder (Fig. 6) which, by means of tiny pins on the cylinder piercing the scrap areas, pulls the scrap down and away from the carton blanks. The stripped blanks are kicked out on a slow-moving delivery belt, while the scrap drops into a hopper at the floor level and is immediately picked up by air suction and blown through ducts directly to a baler for eventual return to the paperboard mill. This unique scrap-removal and disposal system required many hundreds of hours of engineering work before it was perfected.

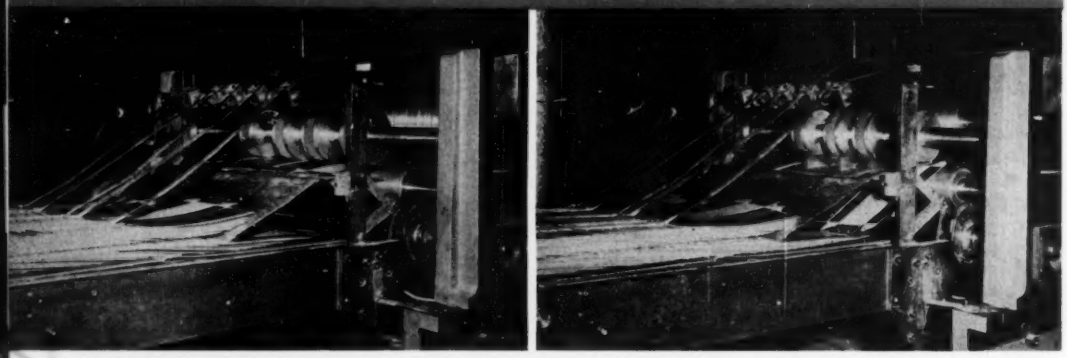
The carton-delivery mechanism incorporates another unique device which was worked out by the carton plant's own engineers. For reasons of economy, due to the shape of the Pall Mall unit-carton blank, they sought a layout that would reverse every other row in order to minimize board waste. This could be done, but it would result in the finished blanks emerging with every other row in reverse position, requiring two men on the delivery belt to straighten out the blanks and stack them uniformly. They thereupon devised an ingenious cam-operated gate on the kick-out mechanism (Fig. 7 and 8) which, in down position, guides one set of blanks straight out, right side up on the delivery belt; it then flips to an upward position and sends the next set of blanks below the gate in reverse position. This results in two distinct layers in each "shingled" row of cartons on the delivery belt and, with the blanks thus separated, it is an easy matter for a single attendant on the belt to scoop up one stack from the top layer and another from below, correlate them, and place the blanks immediately on pallets for shipment.

The entire in-line operation on four-color work requires 40 to 60% less manpower than the same job on a conventional three-stage set-up. Production speed can be figured from



6. STRIPPING CYLINDER, unique development which completes automatic action, is lower of two cylinders at left. View is from above. Stripped cartons normally move across four steel bars to kick-out mechanism at right; they have been removed here to show scrap dropping from stripping cylinder to scrap-removal hopper. Tiny pins projecting through slots in stationery brass straps overlying lower cylinder coincide with channels in upper cylinder, impale scrap areas, pull them down and away.

Unique over-and-under pickout gate



7 and 8. OVER-AND-UNDER action of the unique carton kick-out mechanism separates the alternate rows of carton blanks when alternate rows are reversed in the layout for board economy. In the photograph at the left, the gate is at lower position and the Pall Mall cartons move straight out over the tailboard. In the illustration at the right, for the next row, the gate is up and the cartons move out underneath the hinged tailgate. Cam lift makes action automatic.

the fact that the cutter-and-creaser unit is capable of 8,400 impressions per hour. In the case of the Du Pont unit carton, which is laid out 12 up, this means a capacity of 100,800 cartons per hour, passing 47,350 sq. ft. of stock through a die area of 27 by 30 in. The largest sheet-fed cylinder cutting equipment now in use has a sheet area more than four times as large, but will handle no more than 30,000 sq. ft. per hour. A remarkable and significant thing about this first installation is that this small carton plant has handled the entire job with its regular crew of pressmen and mechanics, none of whom had previously had experience with anything other than letterpress equipment. They approached the job with open minds, without any preconceived notions as to how the thing should work, and this proved helpful in solving the many problems that had to be solved right on the spot.

Advantages

The principal advantages of this type of operation, which seem certain to appeal to many other box makers, are implicit in the above description. Basically, they are (1) *quality*, provided by the rotogravure method of printing, which has heretofore not been too widely used on boxboard, and (2) *economy*, stemming from high production speed, minimum of down time, low labor factor and the ability to accomplish multiple operations on a single machine. With rotogravure, the box maker can produce work of a quality heretofore available, generally speaking, only through the offset method and it is said that, with many types of work, printed effects not producible by either offset or letterpress can be achieved.

The Downingtown printers, who had previously used only letterpress, saw in the new equipment, specifically, a means of competing with other, larger box makers using offset. They were not anxious to go to offset because of the high capital investment required for the printing equipment as well as the high cost of auxiliary plate equipment. They felt they could successfully compete in the quality carton field by a lesser investment and with less specialized knowledge, by the use of rotogravure.

There are many minor points of advantage that contribute to the two general advantages of quality and economy in the new in-line set-up. They may be cited briefly as follows:

1. Inherent in the gravure process, with its elimination of the halftone dots, is the fact that dense solids as well as extremely fine detail, giving gradations of tone similar to a continuous tone, can be produced. This point is well illustrated in the Duco Cement cartons.

2. Quality of cutting and creasing on a stationary flat cutting and creasing press is superior to that obtained on cylinder equipment. This is true because the male die contacts the entire area of the female cutting plate at the same instant, whereas with the usual cylinder press the female cutting plate is mounted on a cylinder, and cutting and creasing is accomplished only by point contact of the curvature of the female cutting plate with the die.

3. Elimination of drying and handling time between operations reduces the chances of change in coloration. Other errors may be detected and corrected at once, eliminating much waste and spoilage. Working inventory is reduced to nil, because finished blanks are shipped as fast as they come off the machine.

4. Production of folding-carton blanks by the sheet-fed method requires that carton-blank forms be tabbed substantially to the scrap areas so that the sheet will hang together as it is delivered from the cutting-and-creasing press. This tabbing makes stripping of the cartons difficult and also leaves objectionable small tabs at various locations on the edge of the individual carton blank. Due to the smaller die-cutting area of the roll-fed press and positive control of the moving web, tabbing requirements are not as great and, consequently, the cartons produced have cleaner edges. Actually, on the Du Pont job, tabs have now been completely eliminated.

5. Waste of board can often be greatly reduced. Sheet-fed printing

and die cutting of cartons requires gripper space on the leading edge of the sheet of ⅝ to ¾ in., a similar space on the lagging edge and ½-in. side trim. With the new equipment the only waste area necessary is a ⅜-in. side trim and carton dies can often be laid out so that carton forms interlock and butt continuously.

6. Roll-fed stock is usually less costly than sheet.

7. The comparatively small die-cutting area simplifies the manufacture of dies and reduces make-ready time—yet production is greater and quality more readily controlled.

8. Plant space requirements are reduced not only through the compact nature of the in-line operation, but also because of elimination of material handling and storage between operations.

Background of development

The basic idea of performing multiple operations on a single machine is far from new. What is new is the adaptation of such equipment to a variety of jobs.

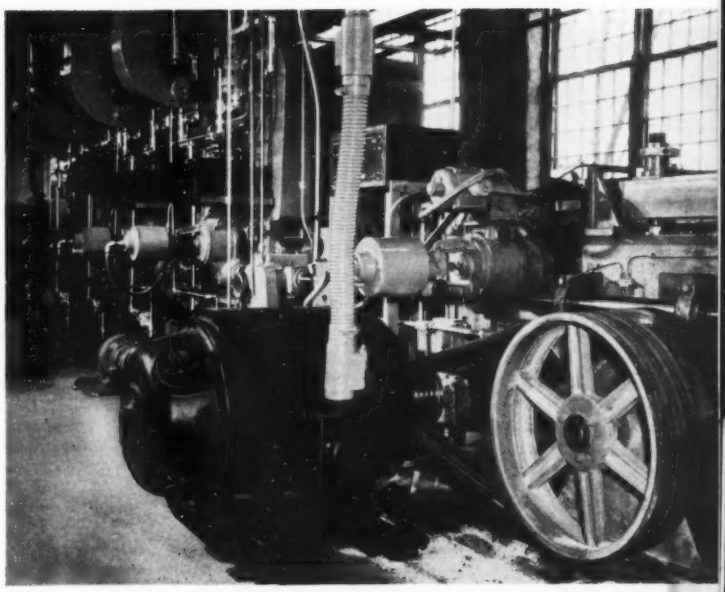
The concept was imported to this country from France and England 20 years ago—at a time when packaging was just beginning its enormous expansion—with the idea that larger package users could achieve economy through continuous long runs of items which they used in great quantities. This would apply not only to cartons, but to die-cut labels and other items.

The Beech-Nut Packing Co., for example, in the early '30s installed approximately 25 multicolor in-line presses for the printing, slitting and cutting of chewing-gum labels, as well as for the multicolor printing and die cutting of folding-box blanks. Other early users were General Foods' Jell-O division, for the Jell-O unit carton, and Scott Paper Co., for Cut-Rite waxed paper cartons. The machine used by Beech-Nut for its Beechies window carton performed the additional function of applying the window film during the single pass of material through the press.

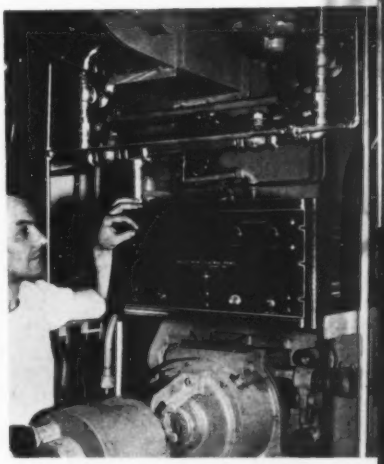
It is interesting to note that these users of the earlier equipment all were large package users rather than suppliers. The point is that the equipment was too inflexible for the supplier who wanted to shift from one job to another. Only those firms having complete control of their production and large enough production quantities to warrant investment in special machinery could afford to buy the equipment. Thus the market for the equipment was strictly limited and comparatively few installations were made, although these were successful in quality and quantity.

These presses, somewhat slower in operation than today's equipment, provided the earliest examples of the quality of rotogravure printing in carton work. However, rotogravure was not adopted primarily for quality but because solvent gravure inks dried rapidly and eliminated offset problems which, on letterpress units, interfered with the performance of multiple printing and fabricating operations in a single pass of the material through the machine.

The true male-and-female die sets used on these machines, precisely manufactured from tool steel segments and functioning on the principle of extruding waste areas surrounding the carton through the bottom of the female die plate, cost from $10,000 to $20,000. The first big step toward today's versatile machine came with the development of press design which could permit the use of



9. DRIVE-SIDE view of machine (opposite from that shown in Fig. 2) shows 40- h.p. electric and main V-belt drive (with guard removed for photo) which powers entire line. Drive is accomplished at the die-cutting unit (right foreground) and from there a drive shaft runs the entire length of the press. The entire installation is explosion-proofed.



10. ADJUSTING the web-sensitivity dial on the register-control panel. This is one of four such controls on the machine—all being the standard 26-in. rotogravure-printing units. Three of the controls are on the presses and one is on the cutter. The actual register setting is a micrometer adjustment.

the flat-bed dies with ordinary steel rules and wooden furniture, immediately dropping die cost to the neighborhood of $100.

But the first steel-rule-and-wood dies did not provide for the removal of scrap. A separate stripping operation was required. This last big obstacle to truly economical in-line operation was removed only with the ingenious timed stripping cylinder as incorporated in the machine at Downingtown.

Duco package redesign

The new Du Pont Duco Cement unit and counter cartons were designed specifically to take full advantage of the new printing process. In their demands for smooth, brilliant, solid colors, for fine detail in illustrations and for multiple hairline register they make maximum use of not only the basic rotogravure process, but also the most sensitive automatic registration controls.

It is safe to say that this design could not be run at all on letterpress equipment; the fact that it can be done with rotogravure quality at a considerable saving over letterpress methods is considered astounding.

The Duco unit carton has four small, finely detailed illustrations of suggested uses on each of three lengthwise panels—all silhouetted against the solid-blue background color. Since the cartons are run 12 up—three across and four deep—this makes a total of 144 spots, with hairline four-color register at each spot.

To the average printer this signifies trouble—yet the printer in this case asked for it. The carton company urged Du Pont to develop a design that would make fullest use of the new equipment—that could not economically be handled on any other type of equipment—to demonstrate what it could do.

Aside from the more brilliant and more numerous colors, the principal design change in the unit carton was to run printing and illustration lengthwise rather than across the face of the carton for better display. Accordingly, the new cartons are displayed lying flat in the new counter merchandiser, rather than standing on end, and a deeper U-shaped cut-out has been made in the face of the counter carton so that the name "Duco Cement" can be read three times.

The previous design was weak on the trade name, displaying neither "Du Pont" nor "Duco" very prominently. Now "Duco" has been given equal prominence with "Cement" in the long horizontal logotype, with the Du Pont oval trademark above it.

Otherwise the redesign was a matter of modernizing and strengthening the use illustrations, taking advantage of the added colors and precision printing of the new process. Very much the same subjects of illustration are used—the scuffed shoes, the broken eyeglasses, the torn luggage, the broken china, etc.—but it is surprising to observe how much the subjects needed to be brought up to date in styling.

The solid colors on the new unit carton are a soft yellow, backing up the trademark and product name on the main display panel; a brilliant neon-like red in the Du Pont trademark and in two sell-copy squares at the ends of this panel and the aqua-blue backing the 12 illustrations on the other three longitudinal panels. End panels are yellow, with no copy.

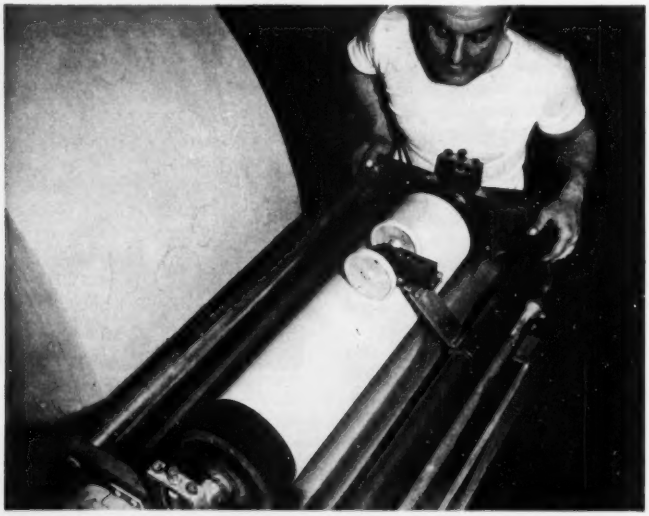
The display carton uses the same basic colors, but with more generous use of the red for the cut-out front panel and the sides. Four full-color use illustrations are silhouetted against yellow on the fold-back display header—another hairline register job.

The collapsible tubes in all sizes are now decorated in the same colors, the face of the tube duplicating very closely the face of the unit carton, with the same change to the more effective lengthwise reading. Illustrations are, of course, omitted from the tube, the back of which carries directions and cautions in a legible sans serif type.

Indications

Du Pont's carton supplier is not the only user of the new in-line equipment, although it is the first to demonstrate its flexibility in a typical multiple-use operation. Three other carton makers have been using similar equipment for the last several months, but only on special long-run jobs. One of the largest folding-carton manufacturers in the country, after a detailed investigation of production costs on this as against conventional equipment, has placed an order for a large 36-in. machine for all-around use. The equipment is currently being offered in three basic web sizes—21, 28 and 37 inches. It can be supplied with any number of color stations and is not restricted to gravure, but can use rotary letterpress or aniline printing units.

Thus the equipment seems to offer different advantages to different users, suggesting that it may be widely adopted by carton makers, both large and small, for both specialized and diversified work. If the ma-



11. FOOT METER on the first pull unit of press shows here that 1,967 ft. of stock have been used from roll running (not shown). Reserve roll shown will be spliced on as running roll nears end of length.

terial and cost savings demonstrated by the Du Pont job are taken as typical, this is important news for all packagers using folding cartons.

However, if it is to be considered as an all-purpose machine, the equipment as used at Downingtown is not without its limitations.

The narrowness of the web (it can actually handle up to a 28-in. width, although rated at 26) limits the number of carton sizes that can economically be laid out on it—and the initial cost of the installation for wider web widths mounts proportionately.

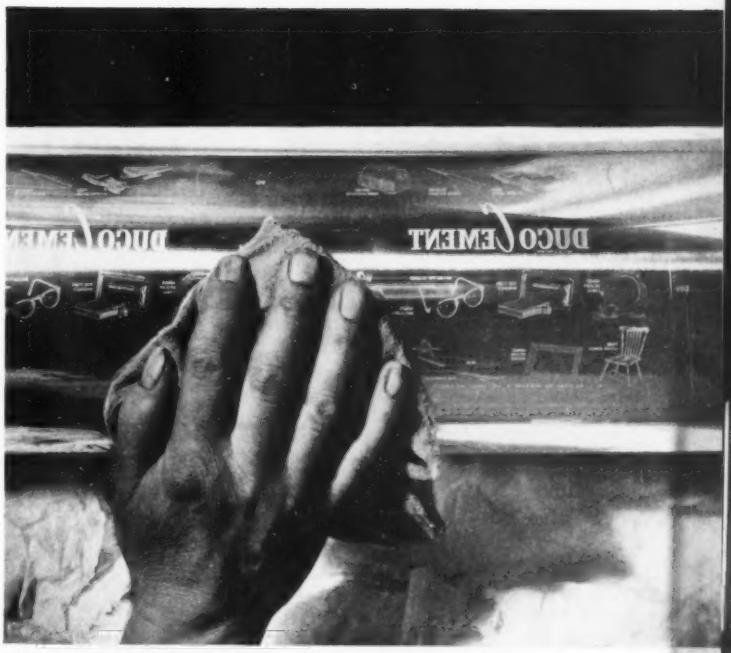
The carton maker is limited in color or varnish impressions to the number of press units installed, since it is impossible to run a second pass through the press, as is commonly done in sheet-fed work. Four colors plus varnish, for example, could not be handled on the Downingtown press.

Admittedly, not all carton forms will lend themselves to full automatic stripping. (But the machine maker points out that a large majority of cartons of conventional style are suited to complete stripping and most cartons not adaptable to complete automatic stripping can be at least partially stripped on the machine.)

Although the flat cutting and creasing dies are impressively inexpensive, the stripping-cylinder set-up costs from $400 to $1,500 for each carton. This is still, however, a bargain in comparison with the average $85,000 for rotary stripping dies and the Downingtown plant estimates that the $1,500 can be fully justified—as against the cost of hand stripping—on any run of 3,000,000 cartons.

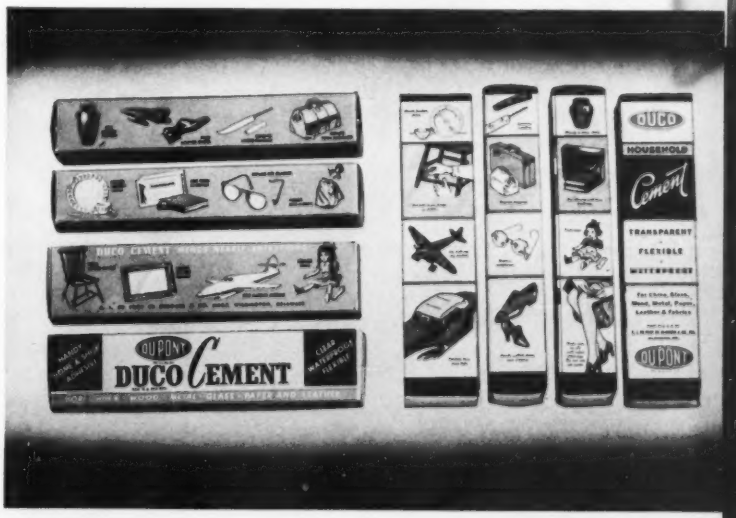
Whether the development will be actually revolutionary in its effect on carton making and carton costs remains to be seen—but the responsible manufacturer of the equipment and the carton maker who have suffered together through the trial-and-error period are one in their belief that the bugs are now out and the principle firmly established.

CREDITS: *Carton printing, Downingtown Paper Box Co., Downingtown, Pa., using machinery developed and manufactured by the Champlain Co., Inc., Bloomfield, N.J. Paperboard, Downingtown Paper Co., Downingtown, Pa. Inks, Frederick H. Levey Co., Inc., New York. Tubes, Wheeling Stamping Co., Wheeling, W. Va., and A. H. Wirz, Inc., Chester, Pa. All Du Pont Duco package designs, Ralph Woodfall, Boston.*

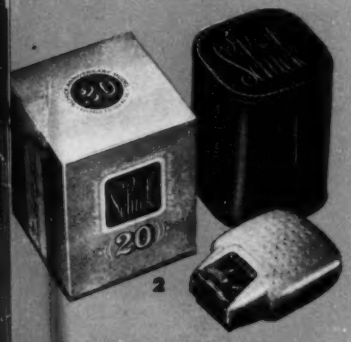


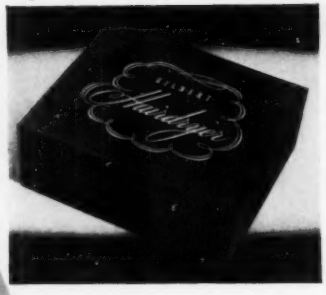
12. SHARP ETCHING and high polish of chrome-plated rotogravure cylinder are revealed by this close-up of the washing operation. The one illustrated above is the black cylinder for the Du Pont unit carton.

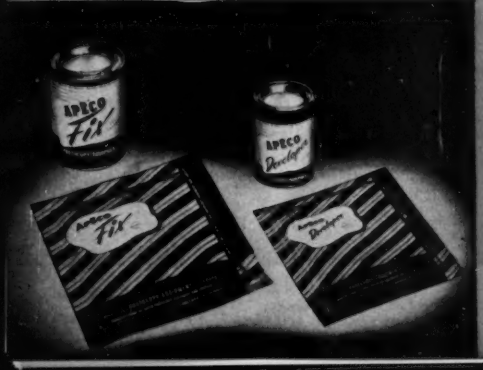
13. COMPARISON STUDY of all four sides of the Du Pont cement carton, both the old and the new, reveals how illustrations showing use of the product have been brought up to date and improved in detail.



PACKAGING PAGEANT







1 Packaging even makes a gift item of Ponderosa pine cones chemically treated for burning in fireplaces. Northwest Forest Products calls them Color Fire Cones and puts them up in two handy sizes. The colorful Mexican basket with 26 cones has a printed, elastic-top Pliofilm bag closure. Refill packages of 16 cones come in printed, sealed Pliofilm bags. Bags, Shellmar Products Corp., Mt. Vernon, Ohio, using Goodyear Pliofilm. Baskets, Mexican Products and M. Volpe, both of Laredo, Tex.

2 Sales display value and practical use to the consumer are combined in styling the new Schick "20" electric shaver "Caddy Case." The telescope box is of leather-covered board stock, saddle stitched and gold stamped, giving the effect of quality luggage. The shaver is displayed in vertical position when the case is open. With cover removed, the base becomes a serviceable holder, which fits into medicine chests. The case is protected in a folding carton. Design, Carl Otto, New York. Case, Prager & Reuben, New York. Carton, E. J. Trum, Inc., Brooklyn.

3 To call attention to its new de luxe "Golden" hairdryer, A. C. Gilbert Co. makes use of a rich dark blue velour box covering with gold stamping on the lid. Grey suede paper lining contrasts with the gold color of the dryer. The intricately designed platform provides effective display of product and the box may be re-used by the consumer. Box, The Box Shop, Inc., New Haven, Conn. Cover paper, Nashua Gummed & Coated Paper Co., Nashua, N. H. Gold stamping, American Stamping & Embossing Co., New York.

4 Colgate Palmolive Peet Co. has added a convenient new plastic dispenser cap to its Cashmere Bouquet Lanolin Hand Lotion bottle. Simply tip the bottle, push the top of the aqua-blue acetate cap and the exact amount of lotion desired is released. A small pin seals the spout. Cap, Sameric Engineering Co., Riverdale, N. J., using DuPont polyethylene. Bottle, Carr-Lowrey Glass Co., Baltimore.

5 Accurate shelf stacking and improved customer recognition are advantages of the newly designed packages for The Kosto Co.'s Kosto Tapioca. They retain family resemblance to the regular line of Kosto puddings (background) by continued use of a curved band, but gain independent identity because they are stacked on shelves vertically instead of horizontally, as were the old packages. Tilting the words "Tapioca Pudding" further differentiates the two product lines. Design, Richard M. Franz, Milwaukee. Cartons, Carton Craftsmen, Inc., Chicago.

6 Polyethylene-lined 70-lb. kraft paper bags selected by the American Photocopy Equipment Co. as the new packaging for its line of photocopy chemicals offer protection against moisture, thereby greatly reducing spoilage and rejects. Light weight and compactness result in lower shipping costs and easier-to-handle shipping containers. The new bags also offer greater convenience in use than the former composite cans. Custom packing, Clayton Chemical & Packaging Co., Chicago.

7 An appetite-appeal theme features the Aluminum Specialty Co.'s first display package for its Alumode gift set of aluminum salad molds. The clay-coated carton is letterpress printed in four colors, the design being from a Kodachrome original. Carton, American Coating Mills, Chicago, Division of Owens-Illinois Glass Co.

8 Italian Swiss Colony Co., in introducing its new premium Asti brand wines, had labels designed to reflect the product's quality, capitalize on the traditions of the Asti, Calif., wine-making area and distinguish this from the company's mass-market wines. The wrap-around label shows illustrations of old-fashioned oaken casks on which are pictured authentic Asti landmarks. The bottle wraps carry out the cask theme, with the Asti trademark. Design, Walter Landor & Associates, San Francisco. Tissue wraps, Fernstrom Paper Mills, Inc., Pomona, Calif., through Pacific Coast Paper Co., San Francisco, and others. Bottles, Owens-Illinois Glass Co., Toledo. Corks, Armstrong Cork Co., Lancaster, Pa., through I. F. Schnier Co., Inc., San Francisco. Labels, Crocker-Union Div., H. S. Crocker Co., Inc., San Bruno, Calif. Foil seals, Betts & Co., Ltd., London, through Northern Glass Co., San Francisco.

9 For gift promotion, Berke Bros. Distillers, Inc., market their Old Mister Boston Five Star Brandy in a distinctive 4/5-qt. private-mold decanter simulating an early French hand-blown decanter with glass stopper and shell cork. Decanter, stopper and cork, Armstrong Cork Co., Lancaster, Pa. Label, Daniels Printing Co., Boston.

10 An ideal use of the pressurized container is for Sprayon Product's new self-spraying touch-up tool filled with "factory finish" enamels or lacquers used for reconditioning damaged surfaces of household appliances, office equipment, etc. The company will process any lacquer or enamel and supply it in either 12- or 6-oz. self-spraying containers. Container, Crown Can Co., Philadelphia. Wrap-around paper label, Oak Printing Co., Cleveland.

8

9

10

PACKAGING PAGEANT

11

11 Leaf Gum Co.'s fascinating new toy dispenser—a plastic Basketball Bubble Gum Bank—comes packaged in a folding carton illustrating the bank. Insert a coin in the slot to release a ball above a shooting spring, shoot the ball through the basket, and out pops the ball of bubble gum. This polystyrene bank, developed and produced before the current shortage of plastics, measures 8¼ by 4½ by 5⅛ in.

12

12 A package that simulates a miniature washing-machine conveys quickly the idea that socks made from Botany Mills' nylon argyle yarn in this kit can be safely laundered in a washing machine. The acetate container fits into a full-color-printed paperboard base with die-cut tabs giving the appearance of legs. Plastic container, Fred Mann & Co., Inc., New York, using Monsanto acetate. Base, Clifford Beck, New York.

13

13 Parfums Charbert, Inc., has revived its kettle-drum packaging idea for shaving soap introduced before World War II and originally made of copper. The new package is of polished aluminum, brought out prior to recent restrictions on aluminum, and is made from the original dies. Container, Chase Brass & Copper Co., Waterbury Mfg. Co. Div., Waterbury, Conn., using Aluminum Co. of America aluminum.

14

14 Chase & Sanborn is one of the first of the leading brands to announce large-scale conversion to the "pressurized pack." The coffee, the company reports, is packed fresh from the oven, under high pressure, without the cooling-off period required for the usual vacuum packaging method. Clearly labeled "pressure packed," the can has a dome-like top that can be opened without danger of the coffee spilling. Can, Continental Can Co., New York.

15

15 Positive color identification under the difficult conditions of supermarket selling is assured by matching background tints and dominant designation on front and top of this three-color wrap for Barclay tissues. Design, Lucian Bernhard Studio, New York.

'First stop--Atlantic City!'

A PIG CAN TRAVEL TO ATLANTIC CITY WITHOUT CHANGING CARS. CAN YOU?

IF NOT, HERE'S A CHANCE TO DO SOMETHING ABOUT IT

That Atlantic City is a nice place to be but a hard place to get to is the complaint frequently voiced by travelers from the West and South, who usually are routed from bed—or from breakfast coffee—to change trains at North Philadelphia.

This year the sponsors and managers of the American Management Assn.'s National Packaging Exposition & Conference, which will be held in Atlantic City April 17-20, have set out to do something about it.

The Pennsylvania Railroad has agreed that, if it can be assured of sufficient reservations for overnight travel from key points, it will schedule special Pullman sleeping cars or whole trains, if warranted, for through service to Atlantic City for this event.

The railroad will act in setting up schedules for this service on the basis of responses to the postage-paid return postcard which has been provided with this issue of MODERN PACKAGING. The tear-out card is inserted at this page. All that is necessary is to indicate the probable date of departure and check one of eight possible points for departure *or connection* for overnight train service to Philadelphia and Atlantic City—and drop it in the mailbox immediately. The A.M.A. will do the rest.

The card is merely an expression of interest in through-service arrangements and is not binding on the signer. Individual ticket arrangements will still have to be made after the railroad determines, from the poll, at what places and dates through service can be offered. But those who send in the postcard will be kept informed of arrangements by the Pennsylvania Railroad and will have first call on space for the date and point of departure indicated.

The show management stresses the importance of an immediate and impressive response to the postcards to convince the railroad of the demand for this service.

Return train service on the same basis is not considered feasible because of widely varying return dates. It is believed that return travel poses no problem, since any change of trains required at North Philadelphia is usually made in daylight or evening hours.

The 20th annual National Packaging Show—which promises to take on added importance this year because of the search for packaging shortcuts and substitutes in the rapidly developing all-out defense economy—will open at the Auditorium in Atlantic City on the morning of Tuesday, April 17. The Exposition will run through Friday and sessions of the annual Conference will be held on each of the first three days.

The most recent developments in machines, materials and services used in packaging, packing and shipping will be on display and it is expected that the show will be larger than ever before, both in area occupied and in number of exhibitors. Exhibit space already booked is said to exceed the record total of last year —with three months yet to go.

Last year there were 19,100 registrants at the show at Navy Pier, Chicago, making this one of the largest industrial expositions in the country. There were 11,000 visitors when the show was last held in Atlantic City, in 1949. Atlantic City attendance is usually smaller, due to the lack of a large local audience, but on the other hand, those who travel to Atlantic City are definitely, and not casually, interested.

The week of April 16 has been designated as "National Packaging Week." In addition to the A.M.A.'s Exposition and Conference, a number of industry groups are planning special meetings during the four days of the Exposition.

The Exposition is under the management, as usual, of Clapp & Poliak, Inc., of New York. Robert D. Handley, advertising manager of the Sylvania Division of American Viscose Corp., is chairman of the Exhibitors Advisory Committee. The Conference program is being arranged by James O. Rice, secretary of the A.M.A., and Paul O. Vogt of the General Electric Co., A.M.A. vice president for packaging.

Atlantic City hotels have promised ample blocks of rooms to handle a crowd in excess of that which attended there in 1949, but reservations should be made immediately by writing directly to the hotel of choice and mentioning the Exposition as the object of the visit.

In connection with the postcard poll on through railroad service, Mr. Rice warns:

"Please note that, after thorough investigation, the Pennsylvania Railroad has established the eight cities listed on the card as the only ones from which it is either necessary or desirable to set up this service.

"Unfortunately, we are informed by the Pennsylvania Railroad that it was impossible to include Cincinnati as an originating point for special service, since conditions surrounding the operation of the Cincinnati Limited would not permit through-car operation from that city to Atlantic City. Similar difficulty was encountered in operating a through car from Montreal to Atlantic City, but the railroad has called our attention to the fact that the situation here is quite satisfactory, inasmuch as the Montrealer arrives in North Philadelphia shortly before 10 a.m., an agreeable hour for transferring to an Atlantic City connection.

"Your reply to this questionnaire is intended solely to aid us in determining the extent to which such service can be established. It in no way commits you either to the A.M.A. or to any transportation agency. We ask you to help as a gesture of cooperation with A.M.A. The results of the questionnaire will be promptly tabulated and the announcement of any service that may be established made as soon as possible."

BULK PRODUCTS—*Pliofilm super-market bags permit quick sales of perishables in larger-than-usual volume. Its superior strength is protection against breakage.*

TOUGHNESS—*Pliofilm is shatterproof, won't rip even when punctured by sharp bones in meats.*

MOISTURE IN—*Oysters, packed in their own brine, stay fresh and tasty in liquid-tight Pliofilm package.*

Bring your tough packaging problems here!

TRANSPARENCY—*Pliofilm's gleaming transparency combines eye-catching display, better protection, and insures cleanliness.*

FROM the Goodyear Research Laboratory have come many different types of **Pliofilm,** specially formulated to the specific advantages of this moistureproof film to a growing variety of different packaging problems.

No matter how troublesome your product is to package, you're likely to find the answer in one of these **Pliofilm** formulas.

Here, on these pages, you see some of the tough packaging problems already solved by **Pliofilm.** And the range of **Pliofilm** applications will grow even broader, as Goodyear Research continues to develop and improve this magic film.

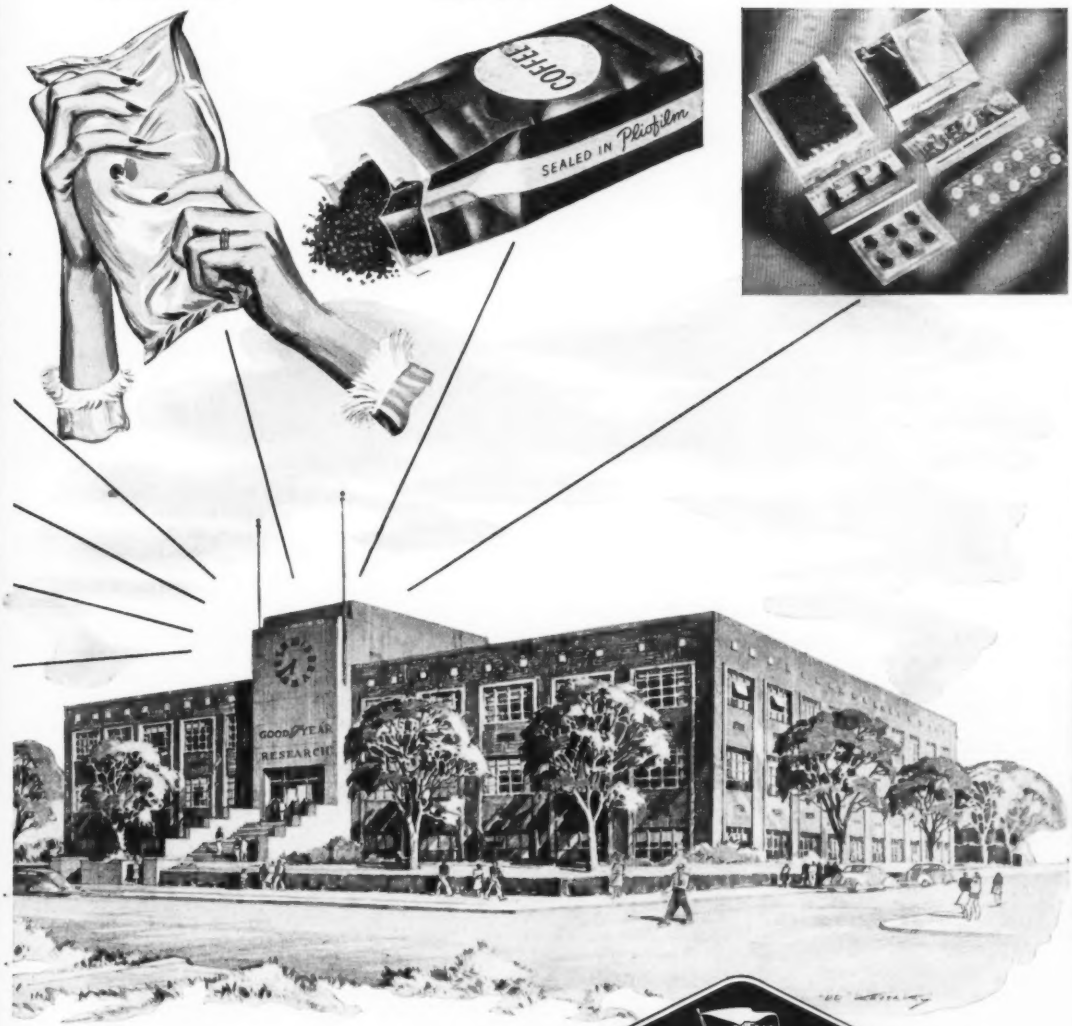
Why not put **Pliofilm** to work for you? For complete information on the type of **Pliofilm** best suited to your needs—write:

Goodyear, Pliofilm Department
Akron 16, Ohio

STRENGTH — *It takes the great strength and flexibility of* **Pliofilm** *to withstand the kneading operation required in the "squeeze-mix" package.*

CONTROLLED GAS DIFFUSION — *In this* **Pliofilm** *lined bag, coffee keeps its aroma and taste far longer.* **Pliofilm** *permits CO_2 to escape, keeps air out.*

MOISTURE OUT — **Pliofilm** *keeps tablets and pills moisture-free, at peak strength.*



GOODYEAR
PACKAGING
FILM

Good things are better in *Pliofilm*

3-way protection against air, moisture, liquids

Pliofilm, a rubber hydrochloride—
T. M. The Goodyear
Tire & Rubber Company, Akron, Ohio

POTATO CHIPS

THE THINNEST, MOST FRAGILE OF ALL FOOD PRODUCTS HAS BECOME BIG BUSINESS; PACKAGING IS KEEPING PACE

DUPLEX GLASSINE bag appears transparent, but is rotogravure printed in five colors. Blocking light guards freshness.

The first potato chip was produced by accident back in 1853, when an Indian cook working at a resort on Lake Saratoga dropped a slice of potato into a kettle of fat which was to be used for making doughnuts. Recipes for "Saratoga Chips" appeared in many of the old-time cook books, but only in recent years has the potato chip come into its own as a commercial food product.

With hundreds of plants now operating in all parts of the country, this industry now consumes more than 20 million bushels of potatoes annually. But despite the growing popularity of their product, potato-chip manufacturers feel there is still a big sales job to be done. Only 40% of the population, they say, now buys this food item.

Potato-chip manufacture is a continuous process, lending itself ideally to automatic or semi-automatic packaging lines. Packaging facilities must be flexible, however, to meet varying production and merchandising requirements. In addition, careful thought must be given to the type of package used, as well as to the surface design. Packages must not only lend themselves to high-speed filling and closing, but must provide maximum protection against breakage of the fragile product. A further packaging problem arises from the fact that exposure to light quickly destroys potato-chip freshness. The special requirements of potato-chip packaging have been studied by The National Potato Chip Institute, Inc., some of whose reports on this subject are cited below. The general principles apply to many other lightweight, fragile, perishable products.

Exemplary operation

Among the potato-chip manufacturers who have been most progressive in their use of packaging materials and equipment is Blue Star Foods, Inc., Rockford, Ill., which was founded in 1939 by Theodore L. Sachs. Within six years the company had quadrupled its capacity. The present production potential of this plant, largest of its kind in Northern Illinois, is some 25,000,000 packages of potato chips per year, with most of the packaging handled on semi-automatic equipment. This is a far cry from the company's early days, when operators filled the bags by hand, folded the tops and stapled them with regular office-type staplers.

In the original Blue Star plant, packaging was performed at six hand-pack tables. Later two machines were installed which automatically weighed the chips and filled the bags, and the company also developed its own manually operated hopper-type fillers on which part of the production is handled. At present, Blue Star has five packaging machines to which chips are fed directly through the conveyor system, as well as four of the hopper units which are used for the 5-cent size and sample bags.

Blue Star potato chips and Potato

FILLING OPERATION on smaller size of "positive-displacement" weigher shows how supply of bags is held on metal clip, under filling spout. When filled, it is pulled from clip and drops on conveyor below.

STANDARD BAG, used by Blue Star for a variety of sizes of potato chips, is glassine printed in white, blue, amber and red. Chips may be seen through amber portions of bag, but harmful effects of light are retarded. One-pound lithographed can has friction cover, tape sealed.

Ruffles, a franchised specialty-type item, are packaged in waxed-glassine bags ranging from the small sample sizes up to those holding a pound of chips. Shoestring French fries are packed in plant-fabricated bags of printed cellophane. The regular-style chips are also sold in 1-lb. lithographed cans with friction cover and julienne-style shoestring potatoes are sold in cans holding 3 oz. of the product packed in an atmosphere of nitrogen for long shelf life.

As the finished chips come from the production department on a conveyor belt, about half of them are routed directly to the filling machines, while the rest are placed temporarily in metal drums for supplementary packaging on the hopper units and from bins, where some table packing is employed. The overhead conveyor system in the packaging department, designed to meet the company's specialized requirements, includes stainless steel blades or separators which can be set to divide the flow of chips as desired and route them to any packaging machine. This system includes electric-eye controls, which retard the flow of chips when they are accumulating too fast in the individual conveyor lines, and variable-speed drives on the conveyors, permitting the flow of chips to be adjusted to the capacity of the filling machines.

Packaging lines

There are three packaging lines at Blue Star incorporating semi-automatic equipment. The outer lines each have two filling units side by side, while the middle line is equipped with a single filling machine used for larger bag sizes. This central machine and the two units which face it on one of the adjacent lines are of one make, while the remaining two fillers are the product of another equipment manufacturer and embody a somewhat different operating principle.

The three basically similar packaging units, of a type first introduced in 1946, utilize a vibratory feed in order to bring the product to an automatic weigher in an even flow. The two smaller machines of the same make

LARGER MACHINE of positive-displacement type handles 2- to 16-oz. bags. Conveyor can be raised or lowered to bring top of bags into alignment with stapling machine.

STITCHER-SEALER closes the larger packages, which are then immediately placed in labeled shipping cases for delivery. The bag tops are double folded before stapling.

ANOTHER LINE has two machines of bulk-and-dribble fill type, handling 1½-oz. bags. Here also filled bags pass through heat sealer and emerge on turntable which facilitates case-packing operation.

HOPPER-TYPE FILLERS, developed by Blue Star, are used for hand filling of smaller bag sizes. Four such hoppers, situated in pairs on both sides of a single conveyor, carry bags to the heat-sealing unit. Frequent check weighing keeps fill accurate.

are designed to handle free-flowing dry products at predetermined net weights of from ⅛ to 2⅛ oz., while the larger unit covers a net weight range from 2 to 16 oz.

Machines of this type perform the actual weighing operation through a principle of hydro-electric positive displacement, with no fulcrum point, weight beams, dash pots, levers, linkages or springs involved. They are distinguished by a vibrator-feed trough at the top, to which the chips are continuously delivered by elevated conveyor belt. From the vibrating feed, the chips move continuously into a receiving bucket which rests on the weighing device in the top center part of the machine. While this bucket receives chips from the feed, a second bucket is automatically discharging its weighed charge into a curved chute which leads to the filling spout. Despite the fragile nature of the product, breakage is virtually unknown with this machine; the chips flow smoothly along the vibrator feed into the bucket, dump gently out of the bucket and pass through the discharge spout into the glassine bags. Average production speed is 2,592 of the 1½-oz. packages per hour.

On the central line, filled bags move by conveyor through a combination folder-stitcher which double folds the tops and automatically stitches both ends of the flap with wire staples. The conveyor on this line rests on an adjustable jack so that it can be raised or lowered to bring bags of different height into proper relation with the closing equipment. Production is 1,488 of the 5-oz. packages per hour.

Blue Star has installed two supplementary features which expedite production on all bag-filling machines. These consist of air-jet tubes which blow the mouth of each bag open prior to filling and long pins or clips which are passed through an opening punched in the top of a stack of bags so that they may be clipped directly beneath the filling spouts. This arrangement makes it unnecessary for the operator to pick up each bag separately. Instead, she merely flips open the mouth of the bag and, as soon as it it filled, pulls it off the clip and places it on the conveyor to be carried to the sealing unit.

The two filling machines on the outside line were the first semi-automatic packaging equipment installed by Blue Star. They also employ a vibratory feed, but with a "bulk" and "dribble" arrangement feeding chips to a conventional scale weigher. They are not fed by the conveyor system, but have large supply hoppers on the back into which supplies of chips are dumped periodically. Speed averages 2,116 of the 1½-oz. packages per hour.

Both of the outside filling lines differ from the central one in that the bags used have a thermoplastic coating at the top. These are crimped and heat sealed after leaving the filling machines and carried automatically to revolving tables at the end of the line, where the bags line up in orderly procession around the outer edge of the table instead of piling up and complicating the task of the operators who place them in the corrugated shipping boxes. Several of these turntables, which are driven by small electric motors, were built by Blue Star in its own plant.

The four hoppers used for manual filling, mentioned earlier, are situated in pairs on both sides of a single conveyor line which carries the small 5-cent and sample bags to the heat-sealing unit, from which they are delivered onto one of the turntables to be packed for shipment. This arrangement requires one operator at each hopper, who places the bags against the filling spout and with a downward sweep of her hand causes them to tumble down into the package. Packages are then check weighed with an over-and-under type of scale before being placed on the conveyor. Production per hour for ¾-oz. packages averages 3,024.

To prevent breakage of the chips, the bags are placed on their sides in layers in the corrugated shippers, with paperboard separators between the layers. The same size of case may be used for various bag sizes.

With the exception of some smaller cellophane bags used for shoestring potatoes, all of the Blue Star bags are of waxed glassine. In most instances, the bags are of duplex, gusseted construction, particularly in the larger sizes.

Product considerations

Although the chips may be seen through their packages, most of the surface is printed to minimize the influence of light on the chips. The present Blue Star package thus reflects the company's desire to achieve a proper balance between protection and merchandising appeal.

In one of its recent bulletins to members, the National Potato Chip Institute, Inc., emphasized the fact that high light intensity causes very rapid deterioration of the flavor and odor of potato chips, while a consistently high humidity causes a rapid decline in crispness. "Ideally," the report continued, "potato chips should probably be stored in oxygen-free containers, in the dark, and at low relative humidity. Practically, however, since the consumer demands to see what is purchased and the retailer may often display potato chips in or near windows and the storage life of potato chips is usually quite short anyway, a bag which protects the chips from harmful light rays and possesses reasonable resistance to moisture permeability will serve the potato-chip producer adequately."

In another bulletin, reporting on work conducted by the Southern Research Institute, the Institute stated:

"Light is responsible for a photochemical action on fatty foods which gives rise to flavor reversion and rancidity. Light definitely shortens the shelf life of potato chips and exposure of chips to light should be avoided. Green glassine bags were effective in reducing the harmful effects of light under conditions of both low and high light intensities, but they were much more effective at low intensities. At high intensities, out of doors or close to windows, the complete exclusion of light would give maximum protection."

In its summary and conclusions, this report pointed out that "during conditions of high relative humidity the use of duplex waxed-glassine bags, duplex 300—MST—54×300—MST—54 cellophane or foil bags offered decidedly better protection against moisture vapor than single waxed-glassine bags, Pliofilm, laminated glassine, coated Diafane or single cellophane bags." Chips stored experimentally in duplex waxed glassine, duplex 300 MST—52×300 MST—53 cellophane, duplex 300×300 MST—54 cellophane and aluminum-foil bags were still in good condition after 164 hrs. at 100 deg. F. and 95% relative humidity, the report says, while bags of single-ply waxed-glassine and laminated-glassine bags did not keep the chips crisp longer than 48 hours.

The design of the standard Blue Star package features a large blue star within a circle near the top of the bag, with the phrase, "Deliciously crisp and crunchy." Beneath the circle, in reverse-white script against a wide diagonal band which continues around the package, are the words "Potato Chips," with the manufacturer's name, listing of ingredients and net weight in blue, in addition to the circular seal of the Potato Chip Institute. The back panel of the bag carries a line illustration of the plant and the money-back guarantee which has always been featured by the company.

Smaller blue stars, distributed over the white areas of the package, increase brand recognition and add an interesting design detail. Another eye catcher is a rectangular panel just above and to the left of the main star. This panel, outlined in bright red and printed in solid red on some of the bags, is used to call attention to other items in the Blue Star line.

Latest development in Blue Star's packaging program is the introduction of a new ¾-lb. de luxe package which gives the appearance of being transparent, but actually is all-over printed with a photographic reproduction of potato chips. The duplex waxed-glassine bag is made of 25/28-lb. W2S outside and 25/26½-lb. W1S inside. Of gusseted construction, it is rotogravure printed in five colors and presents a striking appearance in the retail store. The company plans ultimately to adopt the same design for other bag sizes.

On the new package, design details and copy have been held to an absolute minimum to obtain the full effectiveness of the product illustrated. The Blue Star logotype is used within a red outline border, while the De Luxe Potato Chips label appears in reverse white against a solid red band encircling the package. The only other printing on the display panel are the price and the guarantee, in blue against a white background. On the reverse side of the bag is a box labeled "About This New Bag," which explains the package's features of protection against light and moisture.

Blue Star French fries, or shoestring potatoes, are packed in three sizes of printed cellophane bags. These bags, like those used by the company for such products as nuts and popping corn, are fabricated from preprinted rolls on a bag-making machine in the Blue Star plant. The smallest bags are stapled in dozen lots to printed cards which may be hung up in the retail

(*This article continued on page 168*)

OTHER POTATO PRODUCTS include shoestrings, French fries and "ruffles," variously packaged in cellophane and glassine bags and in cans with nitrogen. Smaller bags are machine-made in Blue Star plant.

Century Ribbon Mills, Inc., effectively display their "Celebrities" line of gift ribbons in this full-color-printed, folding paperboard display carton. Its angled base and die-cut, fold-back cover provide space for prominent trademark identity. A separate scored insert forms three sections within the display for holding the individual rolls of ribbon. Display, Brooks & Porter, Inc., New York.

Space-saving "lollypop sticks" topped by small cards illustrated in color are offered by Winthrop-Stearns, Inc., for promoting winter sale of vitamins by drug stores. Sticks are inserted directly into packages without box breakage. They are suggested for use on the counters of baby and vitamin departments or in windows, where three or more packages may be pyramided. Each of the three cards contains brief sales messages. Display, Wright Photo Offset Co., Inc., New York. Plastic stick, Anchor Plastics Co., New York.

This multiple-use container serves not only as a display, but as a shipping container and as a sample case complete with carrying handles for the jobber. The unit holds four assorted Sentinel clocks offered by The E. Ingraham Co. Made of corrugated board for firmness and strength, over which a linen-finish paper is applied on two sides, the display is printed in four colors. An interesting feature is the prominence given the designer's name on the container. Design, Henry Dreyfuss, New York. Display, Hinde & Dauch Paper Co., Sandusky, Ohio.

Pal Blade Co.'s pilferproof razor-blade merchandiser, designed for cash register tops, may be used as a self-service unit or one which dispenses from the back. It has metal shelves and polystyrene dividers. Shelves, Reynolds Metals Co., Richmond; General Display Case Co., New York. Dividers, Perry Plastics, Inc., Erie, Pa.; Harmonic Reed Corp., Philadelphia.

This adhesive-backed display card which will adhere to almost any surface assures good location in gas stations. Atlantic Refining Co.'s Fram oil filter cartridge and motor-oil can are attached to the card by patented can-holder hooks. Display, Chicago Show Printing Co., Chicago, using "Mystik" adhesive-backed printing stock.

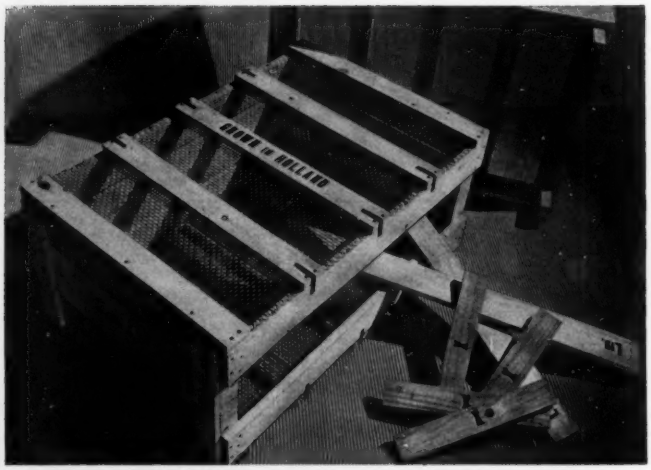
DISPLAY GALLERY

◊ A new indelible lipstick called "Remayn," marketed by Austin-Greene, Inc., is being introduced in the New York metropolitan area and the Hecht Co. in Washington, D. C., with this eye-catching plastic display that effectively combines transparent and opaque acrylic. The gold-colored metal cases are packaged in folding cartons. Display, Artex Plastic Products, Inc., New York. Folding cartons, Acme Folding Box Co., Inc. New York.

◊ New "talking bottles" used by Berke Bros. Distilleries, Inc., for Old Mr. Boston fifths of Mint Flavored Gin, Peppermint Schnapps and Sloe Gin, illustrated (left) alongside regular bottles (right), are designed to promote sale of mixed drinks at bars. Applied color labeling invites customers, for instance, to "Try an Old Mr. Boston Frosty Mint Tom Collins." Printed paperboard collars fit over the bottles. Bottles and closures, Owens-Illinois Glass Co., Toledo, Ohio. Printed collars, Clark-Franklin Press, Boston.

◊ Artists' materials are given sales impetus by this three-piece paperboard display, lithographed in full color, for use either in windows or as a floor stand. Actual brushes are inserted in the simulated wood-grain palette. A complete set of products made by M. Grumbacher, Inc., fits in the center. Side cards may be used individually. Display, Consolidated Lithographing Corp., Brooklyn.

◊ Red fluorescent polystyrene creates an attention-getting merchandiser for E. R. Squibb & Sons' aspirin. The glowing basket has an interchangeable acetate price tab that permits its use with aspirin packaged in 12s, 36s, 100s and 200s. Display, Robert Kayton Associates, Inc., New York, using Monsanto polystyrene.



1. NEW-TYPE BULB SHIPPER is a radical departure from accepted method of packing bulbs in paper bags and large wooden cases. Packed loose in this container, bulbs dry better in storage and get ventilation needed to keep them from picking up moisture during sea transport.

Dutch

New and dynamic forces in packaging are at work throughout Western Europe today. In these nations faced with all the discouraging problems of an "operation bootstrap" the watchword has been: "Export in order to survive." They have, therefore, been compelled to ask themselves: "What products will sell in export?" and, equally important, "How must they be packaged to compete for space—especially on crowded American shelves?" The latter question has been particularly exigent for European exporters, because American dollars have been needed desperately—yet the mass market here has been proved resistant to many excellent products from abroad.

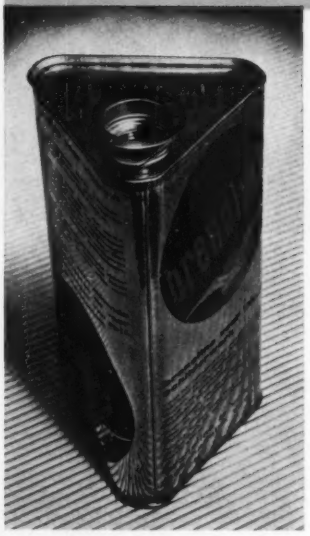
As the editors of MODERN PACKAGING can testify, no country west of the Iron Curtain has been unaware of this packaging problem. Since V-E Day there has been a steady procession of visitors to the U.S. from Holland, Belgium, France, Italy, the Scandinavian countries and the British Isles—packaging technicians and Government officials, studying American packaging and marketing techniques. American authorities, mindful of the necessity for making the Marshall Plan work, have visited these countries to give help and advice. The Economic Cooperation Administration has lent its good offices to these exchange visits. Marshall Plan funds have assisted European packagers and their suppliers in the replacement of war-ravaged equipment.

Nowhere has the packaging program been more energetically pursued than in Holland—a small country particularly dependent on export trade and most severely damaged by war. Much of the Dutch packaging machinery had been stolen or destroyed by the enemy during the long years of occupation and at the same time, in the immediate postwar years, there was a severe shortage or even an absolute lack of the proper packaging materials.

The Netherlands Ministry of Economics set itself resolutely to the task of building up exports to the American market and quickly realized that to achieve this it was necessary to package in conformity with American standards of design, appeal, convenience and economy. An educational campaign for Dutch packagers, conducted by the Netherlands' Economic Information Service, culminated in an exposition of American packaging as a feature of the International Trade Fair at Utrecht last March, at which more than 700 typical American packages were displayed. Talks on packaging were given by Charles A. Breskin, publisher of MODERN PACKAGING, at Utrecht and later to packaging groups throughout the country.

The idea was not, of course, that Dutch package designers should slavishly imitate American design, but rather that they would get fresh ideas and American slants that could be superimposed on their own design thinking.

To stimulate designers in this direction, the Foundation for Industrial Design, in cooperation with the Economic Information Service, the Testing Station for Packagings and the Royal Netherlands Industries Fair, announced plans for a collection of exemplary new Dutch package designs. Designers, advertising agencies and packaging concerns were invited to submit samples either of mock-ups or actual production. From the collection



2. FUNCTIONAL STYLING. The triangular shape of this metal container for Brenoline cleaning fluid employs a natural pouring shape that makes handling and pouring more convenient for the consumer. Another feature of this container is the dispenser spout with patented locking device.

of more than 500 packages, a jury selected 70 outstanding examples, photographed them and published them, with commentaries, in a Netherlands Packaging Catalog (*Nederlandse Verpakkingsgids* 1950) which was issued early last September just before the Utrecht Autumn fair opened.

From the photographs which accompany this article—a very small sampling from the Catalog—it may be seen how well the Dutch have achieved their objective of bright, modern design with just enough of the American feeling to attract the American eye without in any way sacrificing Dutch originality. As a matter of fact, the Dutch packages should be a stimulant to America's own design thinking and they are discussed and illustrated here for that purpose.

All seven packages illustrated here are now in actual use, but there are many more in *Nederlandse Verpakkingsgids*—either in use or projected for use—that are worthy of study and comment. Not all of them are used in export. The net result of the export study was a general stimulaton of all Dutch packaging—domestic as well.

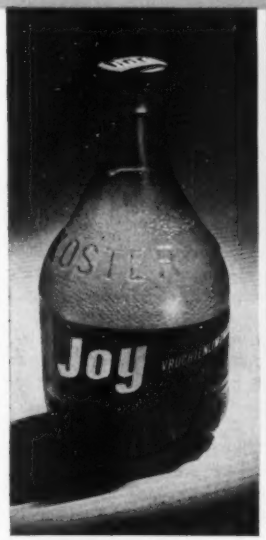
An over-all view of current Netherlands packages shows a strong tendency to pioneer improved features for protection, convenience and merchandising. Here the practical and sturdy national traits of the Dutch emerge as a prominent characteristic of their new packages. In addition there is a flair for brightness and originality in design and a quick responsiveness to what is beautiful as well as functional or economical.

A splendid example of the increased interest in protective packaging is the newly developed "tray-case" shipper for flower bulbs. This product, one of the Netherlands' best known and most important export items, has been routinely packaged in paper bags and large wooden cases for many years and it might be assumed that little or no improvement in packaging methods would be required.

The tray case, Fig. 1, however, is a

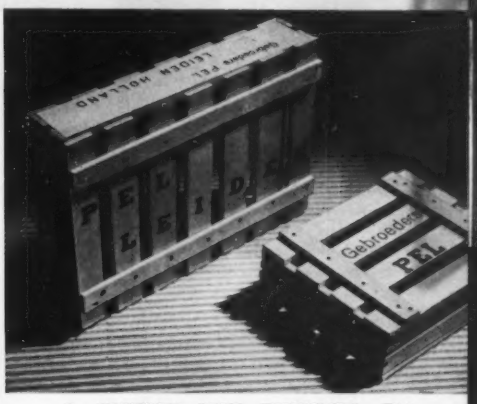
perk-up

SPRIGHTLY NEW PACKAGES REFLECT U.S. INFLUENCE AS REVIVING NETHERLANDS STRIVE TO INCREASE EXPORT BUSINESS



3. DESIGN INTEREST is achieved in this practical glass container for a fruit drink. Cylindrical shape of the body permits machine labeling. Curved surfaces are proportioned for strength as well as for artistic appeal.

4. DISTINCTIVE LABEL for "Vlindereo" (Butterfly Co.) canned applesauce is offset in seven colors on coated stock to provide a package design of butterflies and a branch bearing a ripe apple that ties in with company name and suggests freshness and rich flavor.



5. NOVELTY PLUS VISIBILITY. This package for fruit candy was suggested by the bulk shipping container for the product. Members of this miniature crate are white poplar, stapled together. Lid is hinged.

6. QUALITY is suggested by the traditional design and clean appearance of these containers for pipe tobacco. Text and drawings are designed to strike responsive chord in pipe smokers, who tend to appreciate contemplative, romantic subjects.

7. DISPLAY CARTON with simple, informal design is helping Dutch boot laces compete for sales in certain European specialty shops where this type of merchandising is still the exception rather than the rule.

radical departure from accepted methods of bulb packing and is designed to assure receipt of bulbs in superior condition. The container is a crate constructed of heavy galvanized wire screen and wooden slats on top, bottom and sides. The ends of the crate are full wood construction to provide strength. Bulbs are transported loose in the crate and, in this way, enjoy necessary ventilation during transport so they will arrive dry and in proper condition. In developing this container, the designer-maker conducted a thorough study of how bulbs should be handled and packed for export. It was his experience that bulbs—which are, of course, living organisms that not only breathe, but also secrete water—often arrive after long sea transport in a very wet state, sometimes with bulbs sprouted and enmeshed. The tray case, which serves admirably for storage as well as shipment, permits frequent air circulation. Thus, the bulbs dry more quickly and thoroughly. The success of the tray case has already led to its adoption by a number of bulb growers.

Numerous other examples of improved export bulk packaging could be cited for products ranging from cheese to loud speakers. Constructions and designs in almost every instance stem from a re-study of export experience and a searching attitude to answer the question, "Isn't there a better way?"

Judging from the number of convenience features put forward by Dutch packagers, this phase of their packaging is receiving major attention. A pyramidal envelope shaped like a child's cocked hat for playing soldier and made of paper or cellophane has, for example, been designed for packaging seeds, spices, etc. The peak of the envelope has a perforated tear line to provide easy pouring of small quantites of minute items through a truncated opening.

Triangular shape is also employed for a unique tinplate container for cleaning fluid (Fig. 2). The rather large can, with a capacity of approximately 1½ qt., sits firmly in the hand for pouring. The narrow V-shaped edge makes it easy to pour out quantities into small receptacles used for the fluid in various cleaning chores. The container has a patented cap with a perforated flange edge that permits tight closure and easy opening.

A package that combines novelty and convenience (which may have borrowed its idea from U.S. predecessors) is an attractive glass jar with a preplanted flower bulb. The jar and bulb come to the customer in a patented paperboard carton. Directions on the carton instruct the customer simply to add water in the vase and then put vase and carton in a quiet place until the sprout appears through the die-cut aperture at the top of the carton. The vase is then removed from the carton and placed in a sunny and light spot near the window. Nature does the rest.

Unusual features involving both design and material details are found in packages for low-cost items such as a fruit drink and for luxury commodities such as perfumes.

The fruit drink, selling for about 10 cents, is bottled in a glass container (Fig. 3) that has been distinctively designed for strength, use of machine labeling and esthetic appeal. The bottle, which is highly artistic in proportion and shape, has a stipled surface that subtly suggests the skin texture of citrus fruits. Off-angle perspective in the shadow silhouetting of the brand name "Joy" produces a three-dimensional effect that is far out of the ordinary in graphic effectiveness and attention-getting impact.

A perfume container, of all-glass construction except for a raffia wrapper on the stopper, is shaped like a miniature hourglass. The result is a graceful, highly intriguing art object that is refreshingly original and at the same time especially appropriate for suggesting the timeless, rare quality of a luxurious and romantic gift.

Originality as well as informality of design is further displayed in a wrap-around label for canned applesauce (Fig. 4). Here the motif for a seven-color offset wrapper is a simple pattern of butterflies that effectively ties in with the company name, "Vlinderco" (Butterfly), and subtly suggests freshness and fragrant flavor. An apple branch bearing a ripe red apple is centered in a bull's-eye panel on the wrapper which gives a window effect.

A particularly modern note is seen in an all-visible package for the standard 20s pack of cigarettes. The container dispenses with the customary opaque foil-paper cup and employs only a paperboard base and an overwrap of cellophane. The wrap has a unique top-corner tear tape that easily provides an opening such as is rather laboriously torn in the conventional pack by most smokers. Rights to this package are held by the designer. While questions of sturdiness may or may not be involved, there can be no doubt as to the smartness of the package.

Visibility is also a feature of a novel package for fruit candy (Fig. 5). This container, which the manufacturer reports has scored an immediate hit, is a miniature crate made of white poplar slats stapled together to form the body and hinged lid. This unusual container makes effective use of a packaging material that is plentiful in Holland. It was suggested by the bulk shipping container for the

(*This article continued on page 172*)

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Odor permeability of glassine

CORRELATION BETWEEN ORGANOLEPTIC AND INSTRUMENTAL EVALUATIONS PERMITS RAPID CONTROL TESTING OF SAMPLES.

By L. C. Cartwright and Patricia H. Kelley*

There are many applications of glassine, especially in the packaging of food products, in which one of its major functions is to serve as a barrier to the passage of volatile odor or flavor constituents, either into or out of the packaged product. It is, of course, desirable in such cases to determine the odor permeability of the glassine in order to judge the suitability of particular grades or lots of glassine for the intended use, since theory indicates and experience proves that glassines vary widely in their vapor-barrier effectiveness.

Because of this and other instances of the need for determination of odor permeability of packaging materials, considerable attention has been given the problem by numerous workers (1-7).† However, it is not a simple problem. Both the chemical natures and the concentrations of volatile constituents to be dealt with cover wide ranges and often neither is known with any degree of certainty. Furthermore, the mechanism of permeation may range from one of solution-migration-evaporation to one of gaseous diffusion through occasional folds, breaks or pinholes, including combinations and borderline cases, and may differ completely with different volatile constituents for the same packaging material.

Distinct mechanisms of organic-vapor permeation through nominally continuous films, discussed by Simril and Hershberger (7), include solution-migration-evaporation, diffusion through intermolecular channels momentarily enlarged by thermal vibration and diffusion through intermolecular channels permanently large enough to permit passage of the vapor molecules. The latter mechanism is, at least qualitatively, similar to that of gaseous diffusion through the interfibre interstices of glassine or other paper, pinholes in metal foil or other small openings of greater than molecular dimensions.

The minute quantities of odorous material that must often be dealt with in considering odor permeability, mentioned by Elder (3), and the extremely wide variations in the concentrations of various volatile materials required to produce any given degree of olfactory response, absolutely preclude complete dependence upon purely objective or instrumental methods, at least in their present stage of development, for the solution of all odor- and flavor-permeability problems. Potentially useful as several of these methods may be in the precise determination of the permeability of packaging materials to specific volatile substances (4, 5, 6, 7), recourse must still be had to organoleptic methods to determine the actual permeability of packages or packaging materials to most odors and flavors with which the manufacturer is concerned in practice.

Although Crocker (2) and others have mentioned use of organoleptic methods in studying the permeability of packaging materials to specific odorous substances, the most practical equipment and procedure for general application to specific problems of odor permeability yet reported is probably that of Cherepow (1). This method can, of course, be readily extended to cover tests on actual packages as well as on packaging materials. The frequently voiced objections to this, or any other organoleptic method, based mainly on allegations of unreliability and lack of reproducibility due to the subjectivity of sensory response, can be largely obviated

1. USE OF TEST CELLS by a member of the test panel in the Cherepow organoleptic method. The results showed correlation with tests of the same materials by the TAPPI Turpentine Test.

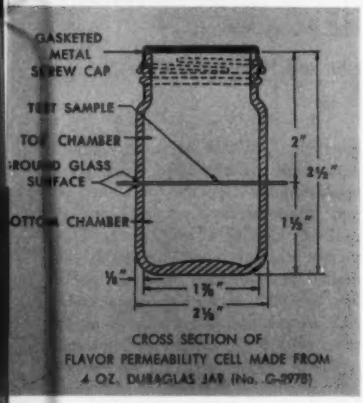
* Both of Foster D. Snell, Inc., New York.

† Numbers in parentheses identify "References" appended.

by applying sound basic principles of panel testing and statistical analysis of the results, as set forth by Cartwright, Snell and Kelley (8).

It may well be that in many instances, after correlation of results between the organoleptic and one of the instrumental methods under carefully specified conditions has been experimentally established, the instrumental method may prove more rapid, more precise, or both, for routine control tests or for the comparative evaluation of a large number of packaging materials. An interesting, possibly unique, example of such correlation between organoleptic evaluation of odor permeability by the Cherepow method and an instrumental method—in this case, a method for determining permeation of a liquid through the packaging material—occurred in our laboratory.

2. CHEREPOW CELL is shown in cross section. In use, odorous material is placed in the bottom chamber. Screw cap of the top chamber is removed at intervals, the odor detected by sniffing and the time required for first detectable appearance of odor in top chamber recorded.



CROSS SECTION OF FLAVOR PERMEABILITY CELL MADE FROM 4 OZ. DURAGLAS JAR (No. G-2978)

In evaluating glassine for packaging a prepared cocoa mix we were concerned with both grease resistance and barrier effect against odor and flavor transfer. To determine the former, we used the TAPPI "Turpentine Test" (TAPPI Method T-454m-44), while for the latter we used the Cherepow method. Since we were interested in rate of loss of aroma from the cocoa mix, as well as in permeation of foreign odors or flavors into the packaged product, we checked the odor permeability of the glassine to the cocoa mix and to an oil-base ink, such as might be used on outer components of the packaging system.

The equipment used is shown photographically in Fig. 1 and diagrammatically in Fig. 2, the latter reproduced from Cherepow (1). The odorous material is placed in the bottom chamber, the test sample is interposed between this and the top chamber, the screw cap is removed briefly at suitable time intervals, the top chamber is sniffed, the screw cap quickly replaced and the time required for first detectable appearance of the odor in the top chamber is recorded. Replicate test assemblies are provided for each panel member. In this particular work a three-member panel was used and the results reported are the mean values for the panel.

The turpentine-transudation times (TAPPI T-454m-44) and the odor-permeation times for seven samples of glassine are given in Table I. It will be seen that there is fair correlation between these properties, although the correlation is not perfect. On the other hand, when creased specimens of glassine of Sample 59 were tested, the turpentine-transudation time in seconds for 10 specimens was 50± 10, while the ink-odor-permeation time in minutes for six of the specimens was 36± 6.

In other words, creasing the specimens decreased the turpentine-transudation time to about 4% of its original value, but only decreased the ink-odor-permeation time to about 20% of its original value.

Both this effect and the imperfect correlation between turpentine-transudation time and odor-permeation time for uncreased glassine can be logically explained in view of the probable structures of the particular glassine specimens. If the porosity of a specimen of glassine is mainly due to a few relatively large pores, while the major portion of its area is substantially impermeable, then it may be expected to show relatively rapid turpentine penetration, but relatively slow odor permeation. On the other hand, if the specimen has a great many pores, each only slightly larger than molecular dimensions, but together comprising a substantial proportion of its total area, turpentine transudation may be quite slow due to surface tension of the liquid, while odor permeation may be quite rapid due to the large total pore area. Of course, many somewhat larger pores will result in rapid penetration by either turpentine or odors, while substantial absence of pores will render the specimen an excellent barrier both to turpentine and to odors. This explanation is very nicely supported by the above results on creased specimens of an initially highly impermeable glassine.

Undoubtedly the creasing resulted in the formation of a few relatively large pores through which the turpentine passed rather quickly, but the total area of these pores was not very great, so that odor permeability was not increased nearly as much.

Since, in this particular case, the requirements were for glassine with a very high barrier effect both to grease penetration and to odor permeation and since correlation between the results of the two tests in this range was fairly good, we were enabled to use the more rapid and economical tur-

(This article continued on page 178)

TABLE I—COMPARISON OF TURPENTINE-TRANSUDATION TIME AND ODOR-PERMEABILITY TIME FOR SEVEN SAMPLES OF GLASSINE

Glassine sample number	*TAPPI turpentine-transudation time*			*Odor permeability by Cherepow method*					
				With cocoa mix			*With oil-base ink*		
	No. of specimens	*Time, Seconds mean*	*S.E.M.**	*No. of specimens*	*Time, Min. mean*	*S.E.M.**	*No. of specimens*	*Time, Min. mean*	*S.E.M.**
60	10	30	± 4	6	15	± 2	–	–	–
10	10	57	± 7	10	181	±15	10	9	± 2
9	15	88	±18	15	215	±13	15	6	± 2
13	15	180	±50	15	232	±20	15	8	± 2
57	30	445	±55	6	1,080+†		6	120	±22
59	30	1,360	±95	6	1,080+†		6	170	±26
58	30	1,435	+85	6	1,080+†		6	280	±40

* Standard error of mean, calculated by the formula S.E.M. $= \sqrt{\frac{\Sigma x^2}{N(N-1)}}$

† Test discontinued at 1,080 minutes; no specimens passed detectable odor in this time.

Organic-vapor transmission test*

A NEW GENERAL FOODS METHOD PROVIDES THE ACCURACY OF INSTRUMENTAL EVALUATIONS WITHOUT CUMBERSOME APPARATUS.

By T. J. Muldoon,[1] R. de S. Couch[2] and H. M. Barnes[3]

Very often the decision as to whether a particular packaging material will be satisfactory for a given use depends primarily upon how readily the material will or will not permit odors to pass through it. This is especially true in the food-packaging field, where some applications require a sheet that will pass odors readily while other applications require a sheet that will prevent odor transfer. For example, tea and butter are two foods that are easily contaminated by foreign odors. As such, they require an odor-resistant packaging material. Foods with volatile flavors require the same type of protection except that in this case the package is used to keep the odors from dissipating.

Other foods, dry cereals as an example, develop stale and rancid odors upon prolonged storage. These odors usually can be detected long before any stale or rancid tastes are developed and, unless they are vented, the shelf life of the product is seriously reduced. Such products require an odor-permeable package.

A number of different test methods have been proposed for measuring the rate at which odors pass through materials. Basically these methods can be divided into two main groups—subjective, or organoleptic, tests and objective, or instrumental, tests. The present test method falls in the latter category.

Each type of test has its inherent advantages and disadvantages. Organoleptic tests use relatively simple equipment and give the results in a short time. However, for the results to be reliable, these tests require the presence of several trained judges. Also, since they rely upon the senses of taste and smell, they are, of course, subject to human error and fatigue.

The instrumental test methods are superior to the organoleptic methods in that they eliminate personal judgment and give numerical results which can be duplicated. However, the instrumental tests have always required cumbersome apparatus, trained operators and special techniques.

In the present test, these difficulties have been overcome to a large extent. The test uses very simple cells and does not require any greatly specialized knowledge on the part of the operator.

A detailed procedure sheet describing the equipment and various steps involved in running a test has been prepared and should be consulted before attempting the test.[4] The present discussion will be limited to the basic features of the test.

The actual test cell is illustrated in Fig. 1. It consists of two 125-mm. crystallizing dishes with one dish inverted on top of the other. A glass hook mounted in the center of the top dish has a small Petri dish hanging from it. The bottom half of the cell is plain. The rims on both dishes are ground flat to insure a reasonably tight seal against the sample.

When assembled for testing, the small Petri dish is half filled with a volatile organic liquid—methyl furoate. A fairly strong solution of potassium hydroxide is placed in the bottom dish and the specimen to be tested is mounted between the two dishes.

During storage the methyl furoate volatilizes to fill the space in the upper half of the cell. The vapor then dif-

[4] Copies of the procedure are available from the authors on request.

FIG. 1

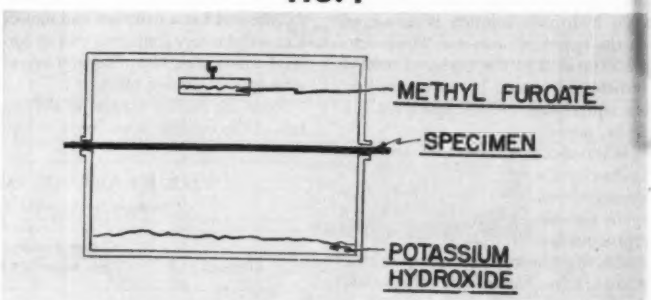
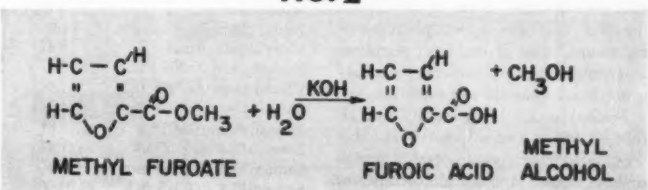


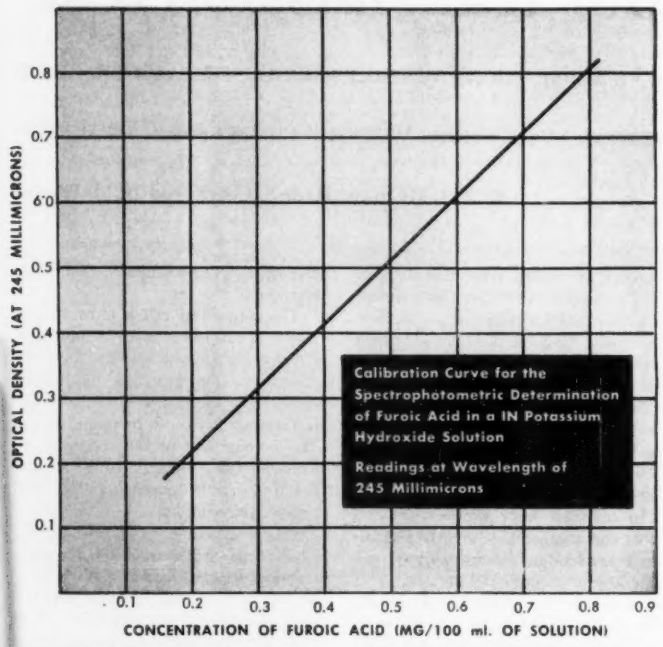
FIG. 2



* From a paper delivered by Mr. Muldoon at the 12th Annual Forum of The Packaging Institute, New York, Oct. 25, 1950.

[1] Project Leader, Packaging Research Section; [2] Head, Packaging Research Section, and [3] Director, Organic Research Laboratory, of the General Research Laboratories of General Foods Corp., Hoboken, N. J.

FIG. 3



fuses through the test specimen and is picked up in the potassium hydroxide solution, where it is saponified to the potassium salt of furoic acid. The essential chemical reaction in the test is shown in Fig. 2

At the completion of the test period the amount of furoic acid in the potassium hydroxide solution is measured on the spectrophotometer. The results are expressed as the grams of methyl furoate that would be transmitted by one square meter of test specimen in a 24-hr. period.

When choosing the organic vapor to be used in the test, four factors had to be considered. First, the material had to be volatile. Second, it had to be representative of a large number of commonly encountered odors. Third, it had to have characteristics that would render it suitable for measurement on the spectrophotometer. Fourth, it had to be fairly stable. (Before undertaking the development work, it had been decided that the spectrophotometer represented one of the most sensitive and accurate means available for measuring small quantities of materials.)

Methyl furoate is the methyl ester of furoic acid. An ester appeared to be the most satisfactory organic test material since it would saponify almost instantaneously and irreversibly in the strong potassium hydroxide solution, keeping the concentration of test gas in the bottom half of the cell to a minimum and also maintaining the substance to be measured, furoic acid, as the stable, non-volatile potassium salt.

Although it is not a flavoring material itself, methyl furoate is sufficiently volatile and has a structure and molecular weight very similar to that of furfuryl mercaptan of coffee and oil of wintergreen, among others.

Since the methyl furoate in the top half of the cell has a tendency to oxidize and polymerize, 1% of hydroquinone is added to it as a stabilizer. With the added hydroquinone, the material is sufficiently stable so that it does not require replacement more than four times a year. When fresh, the methyl furoate has a pale yellow color which deepens as the material ages. By observing this color change it is a simple matter to decide when new material is needed in the Petri dishes.

Furoic acid, which is the substance actually measured in the spectrophotometer, has a high, sharp peak in its absorption spectrum at a wave length of 245 millimicrons. This is in the ultraviolet region. The height of the peak, which is measured as the optical density of the solution, varies directly with the concentration of the furoic acid. Fig. 3 shows the calibration curve that was obtained when density readings were made on potassium hydroxide solutions containing various known quantities of furoic acid.

The concentration of furoic acid in any unknown solution can be obtained from the optical density of the solution and the calibration curve.

Since the results are reported as grams of furoic acid per square meter per 24 hrs., the concentration is divided by the number of days that the test ran and is multiplied by a factor to convert from the actual area of the test specimen (which is about 120 sq. cm.) to the square meter basis.

During the two years that the method has been under development, a number of tests have been run on some of the more common packaging materials. The average organic-vapor transmission rates obtained in these tests are shown in the left-hand column of Table I. Some of the results

TABLE I—ORGANIC-VAPOR TRANSMISSION RATES
(Obtained by General Foods methyl-furoate method)

Material	*Grams furoic acid/ sq. meter–24 hrs.*	*Mean deviation*	*% mean deviation*	*Number of tests*
Waxed full glassine	0.054	0.014	27.0	6
Plain full glassine	1.48	0.26	17.0	17
Plain cereal glassine	2.27	0.27	12.0	20
Waxed sulfite	0.485	0.099	20.0	21
Plain sulfite	11.9	0.50	4.0	3
450-PT cellophane	8.42	0.29	3.5	27
Polyethylene (0.0010 in.)	6.77	0.20	3.0	3
Polyethylene (0.0025 in.)	4.98	0.27	5.3	38
Polyethylene (0.0040 in.)	4.54	0.19	4.1	3
Polyethylene (0.0075 in.)	3.81	0.06	1.5	3
Saran 517.4 (0.0005 in.)	1.47	0.23	15.7	11
Saran 517.4 (0.0010 in.)	0.925	0.11	12.2	2
Saran 517.4 (0.0015 in.)	0.663	0.048	7.2	2

are the average of over 30 individual readings, while others are the average of only two or three tests. More tests were run on 2½-mil polyethylene and on 450-PT cellophane than on any of the other materials, principally because these two sheets gave the most uniform results and could be used as controls when investigating some of the variables that had to be eliminated during the development work.

The second column in Table I shows the average deviation of the results from the mean and the third column expresses these variations as percentages. These results indicate that some materials, particularly sulfite and glassine, have a large scatter in their transmission rates. Other materials such as polyethylene and cellophane had a variation of only ±5%. Since it was possible to obtain a precision of ±5% with these latter materials, it is felt that the test is accurate to at least this degree and that any deviation greater than ±5% is a reflection of a variation in the material itself. As such, it is a quantity that should be known.

In one particular test on plain glassine, it was found that two sheets of paper in two different test cells gave widely different results. When the sheets were reversed in the cells and the test repeated, the sheet that had the highest transmission rate in the first test also had the highest rate in the second, indicating that the variation was in the paper and not in the test procedure.

An interesting feature of the results is the wide range of transmission rates that is covered. Where most other gas-transmission tests will give accurate readings within relatively narrow limits, this test has no absolute lower limit and has an upper limit of 14.0 gms./sq.m./24 hrs. The lower limit is dependent only upon the accumulation of 0.2 mg. of furoic acid in the potassium hydroxide solution which, in turn, is dependent upon the length of time that the test is allowed to run. For practical considerations, it is felt that if the sheet has not transmitted the 0.2 mg. within a two-week period, the test should be discontinued. This would correspond to a transmission rate of 0.001 gm./sq. m./24 hrs. The upper limit of 14.0 grams was obtained in tests that were run on blank cells. It is dependent upon the rate at which the methyl furoate volatilizes and is absorbed in the potassium hydroxide.

TABLE II—EFFECT OF RELATIVE HUMIDITY ON TRANSMISSION RATES

Material	*Organic-vapor transmission rate (gms./sq. meter/24 hrs.) at 84% R. H.*	*Organic-vapor transmission rate (gms./sq. meter/24 hrs.) at 34% R. H.*
Waxed full glassine	0.054	0.0030
Plain full glassine	1.48	0.042
Waxed sulfite	0.485	0.265
Plain sulfite	11.9	8.08
450-PT cellophane	8.42	1.03
0.0025 in. polyethylene	4.98	4.76

The organic-vapor transmission rates presented in the first column in Table I are information that until the present time has been known only in general terms. It has been known that when a sheet of paper is coated with wax, the rate at which odors pass through the sheet is reduced. It has not been known exactly how much the transmission rate is reduced. A comparison of the results obtained on plain glassine and plain sulfite with the results obtained on the waxed sheets shows that when 5 lbs. of wax are placed on the sheets, the organic-vapor transmission rate is reduced to one-fortieth of the value obtained on the plain sheets. Tests have not yet been run on sheets coated with less than 5 lbs. of wax, nor have different types of coatings been tested. It is expected that when data of this type are available, it will be possible to combine the results with the results from other tests, especially water-vapor-transmission studies, to obtain the best material for a given packaging application. In the case of dry cereals, mentioned earlier, this means that it will be possible to select the sheet which presents the best compromise between a high organic-vapor transmission rate and a low water-vapor-transmission rate.

Fig. 4 is an example of the type of data that can be developed from tests of this nature. Both organic- and water-vapor transmission studies were run on 1-mil, 2½-mil and 4-mil polyethylene. The results show that the 1-mil sheet transmitted water vapor almost twice as fast as organic vapor, while the 4-mil sheet permitted both to pass at the same rate. This is the reverse of what would be needed for the dry cereals.

A surprising feature of the results

FIG. 4

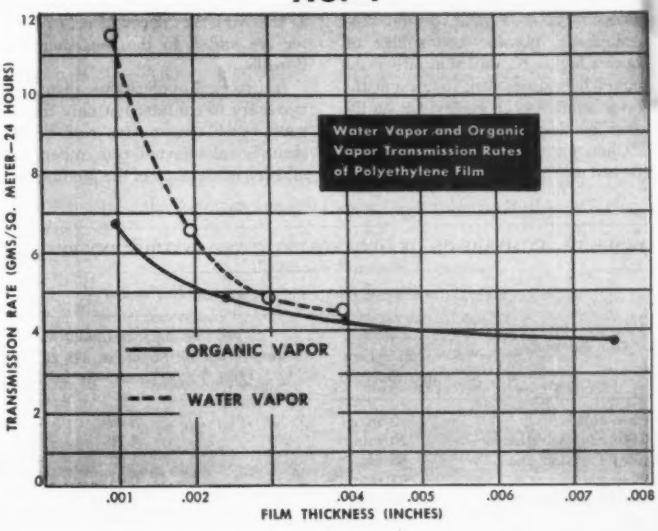
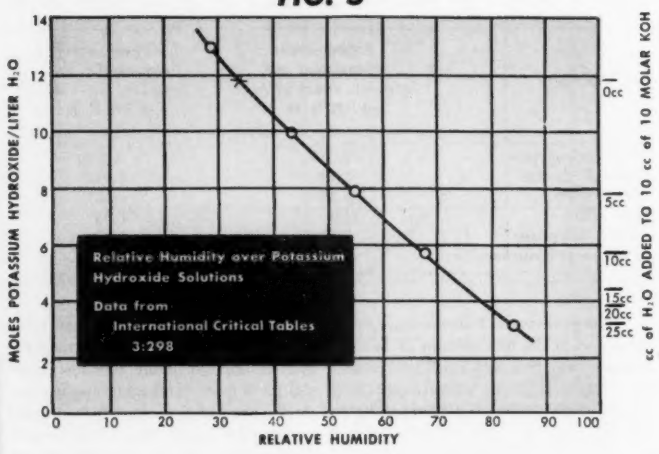


FIG. 5



in Table I is the high transmission rate that is shown for 450-PT cellophane. Ordinarily, cellophane is thought of as a fairly good odor barrier and, for certain products, it is.

When tests were run in an effort to explain the apparently erroneous results obtained on cellophane, it was found that the transmission rates of cellophane and other cellulosic sheet materials, such as sulfite and glassine, are extremely dependent upon the relative humidity at which the tests are run. Table II presents the results of organic-vapor transmission tests that were conducted with the atmosphere held at 34% relative humidity and other tests that were run on the same materials at 84% relative humidity. Cellophane, glassine and sulfiite all show a higher transmission rate at the higher humidities than they do at the lower humidities. Polyethylene, on the other hand, shows very little change.

Changing the relative humidity in the test cells is accomplished by changing the concentration of the potassium hydroxide that is placed in the cell. Fig. 5 shows the manner in which the relative humidity in the cells will vary with the concentration of the potassium hydroxide solution. The figures on the left-hand side of the curve give the Molality of the solution, while the figures on the right-hand side give the number of cc.'s of water that must be added to 10 cc. of the standard 10 molar potassium hydroxide solution in order to obtain the desired relative humidity. To run a test at 34% relative humidity, no water is added to the potassium hydroxide solution. To obtain 84% relative humidity, which is the relative humidity at which most of the work was done, 25 cc.'s of water are added to the potassium hydroxide.

In practical applications, then, it is necessary to consider not only the organic-vapor transmission rate of the sheet, but also the moisture content and other characteristics of the product that is to be packaged. If, for example, a moist product such as shredded coconut or fresh vegetables is being protected against odor pick-up, an entirely different material may be required from that which would be used on a dry product such as tea.

Two sets of tests were run in an attempt to correlate the organic-vapor transmission results found in the test with the results of actual taste and sniff tests. For the taste tests, a regular cell was set up on each of three successive days. Waxed sulfite was used as the membrane and butter was placed in the bottom section of the cell instead of potassium hydroxide. On the fourth day all of the cells were disassembled and the butter was tasted for off-flavors by a panel of five people. The taste of methyl furoate was strong in the samples that had been stored for two and three days, but was barely perceptible in the one-day samples. During this one day 3.1 milligrams of methyl furoate had passed through the sheet.

To correlate the organic-vapor transmission rates with sniff tests, five bell jars were assembled with oil of wintergreen in the bottom and with different types of packaging materials between the body of the jars and lids. Stoppers in the lids were removed periodically and the air in the top section of the jars was sniffed in an effort to detect the oil of wintergreen. Table III gives the times at which the odor was first detected, as well as the organic-vapor transmission rates for these materials. The agreement between the two columns of figures, although not perfect, is fairly good and would have been better if more accurate threshold values had been obtained for the oil of wintergreen.

Although a number of other factors, such as temperature, undoubtedly will influence the rate of transfer of organic vapors through packaging materials, these factors have not been studied as yet. Further tests are planned to determine transmission rates over the entire range of relative humidities. Tests will also be made to study the effect of gradually increasing weights of wax on the transmission rate.

Despite the fact that there is a great deal of work to be done to improve the test, it is felt that the basic features of the procedure have been sufficiently developed to warrant their presentation as a simple, rapid method for accurately determining the rate at which organic vapors will pass through packaging materials.

TABLE III—COMPARISON OF ORGANOLEPTIC AND INSTRUMENT RESULTS

Test materials	*Organoleptic*	*Instrument*
	Oil of wintergreen first detected	*Organic-vapor-transmission rate of methyl furoate at 34% R. H. (gms. FA/sq. meter–24 hrs.)*
Plain sulfite	3 min.	8.08
0.0025 in. polyethylene	20 min.	4.76
450-PT cellophane	65 min.	1.03
Plain glassine	195 min.	0.047
Waxed glassine	1,440 min.	0.0030

Think of brilliant, transparent cylinder-shaped packages of tough, long-lived Kodapak Sheet. A partition divides each into two compartments; each compartment has a simple removable top.

What an idea for merchandising products that go together! Double-headers like these can be used to display combinations of candies, nut meats, or snacks, side by side . . . to show and sell from shelf or counter. They also help the customer by making products easy to serve; act as a constant reminder of brand.

Kodapak Sheet comes in two basic forms: Kodapak I Sheet, cellulose acetate, gauges up to 0.060″; Kodapak II Sheet, cellulose acetate butyrate, gauges up to 0.002″. Made on the same type of machines, to the same high standards, as Kodak photographic film base.

For further information about Kodapak Sheet, its fabrication and end uses, write Kodak, consult your nearest representative or distributor, or arrange to visit the Kodapak Demonstration Laboratory in Rochester.

Cellulose Products Division

Eastman Kodak Company, Rochester 4, N. Y.

Sales Offices:
New York, Chicago.

District Sales Representatives:
Cleveland, Dallas,
Philadelphia, Providence.

Pacific Coast Distributor:
Wilson & Geo. Meyer & Co., San Francisco, Los Angeles, Portland, Seattle.

Canadian Distributor:
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Kodapak Sheet

"Kodapak" is a trade-mark

FOR THE DISPLAY YOU WANT . . . THE PROTECTION YOU NEED

Kodak
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Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Water-soluble packaging films

QUESTION: We have a new product for household use which must be dissolved in warm water. Someone in our organization has suggested that there are water-soluble packaging films that would be ideal for our product and its use. The product is a fine powder which does not cake readily and which must go into solution quickly and with little effort.

Can you suggest a water-soluble film suitable for making small envelopes for this product?

ANSWER: There are several materials that are water soluble and can be made into packaging films. One of these is polyvinyl alcohol. However, you have specified that your product should be quickly dissolved in warm water without undue agitation. The water-soluble packaging films would require very hot water or both agitation and time before they are completely dissolved and the product released.

The danger is, in your case, that the film would become soft and gummy and the product would cake before it was released for solution. Also, the seams and seals of the package would be resistant to solution and would leave undissolved pieces.

Water-soluble packaging films have been successful in several industrial applications where there are high temperatures or plenty of agitation, or both. Polyvinyl alcohol films can be heat sealed if they are moistened or have a high moisture content. However, it is doubtful if this or any other water-soluble films or resins would perform exactly as would be required for the product you are packaging.

Chlorine-resistant disks

QUESTION: We would like to coat cork disks with a film that has resistance to bleach water. The solution which we are packaging is high in chlorine content and as a result severely attacks metal and nearly every type of resin which we have tried for this purpose.

We would like your suggestion on resins or films which we would like to experiment with and examine for this application.

ANSWER: You have probably tried the use of polyethylene film for coating the cork disks. This material would appear to be promising because of its chemical inertness, but you probably found that polyethylene film did not work because it transmits the chlorine, with subsequent destruction to the cork base as well as to the outer metal closure.

However, you might try using a heavy section of the polyethylene and eliminate the cork entirely. This heavy disk of polyethylene, 0.020 in. or more in thickness, would have good resilient qualities for sealing purposes and, therefore, should allow very little chlorine to pass through it.

There is a possibility that a laminated film of vinylidene chloride (saran) might be effective. It is, of course, difficult to predict the performance of a given material, but vinylidene chloride has a chemical inertness and a resistance to penetration by most gases. Its effectiveness for this application can best be determined by conducting your own laboratory experiments.

It is suggested that you continue your laboratory evaluation of new materials as they appear and eventually you will find some material or construction which will be satisfactory for the purposes you have in mind. However, you should consider that the best solution to your problem may be an entirely new approach rather than a modification or new combination of present materials.

Effective seating of plugs

QUESTION: One of our products is a dense, free-flowing powder that we pack in a fibre can with metal ends and a friction-plug closure. We use this package in several sizes up to 1-lb. net weight. With containers in the larger sizes we sometimes have received complaints of the plugs coming out in shipment.

Can you suggest an improved type of closure or any way that we can keep these plugs in place?

ANSWER: Friction plugs can often become unseated when a case or a package is dropped, particularly if the product is free flowing enough to show hydraulic properties. Apparently the product which you are packaging is sufficiently dense and free flowing to behave like a liquid and thus transmit enough shock to force out the plug closure.

It is quite apparent from your letter that you are buying these fibre cans with the plugs out, that you fill the cans through the top opening and then inserting the plugs in the container at your plant. It is very difficult to seat plugs completely and effectively in this way without crushing the metal or can body.

The best answer to your problem is to buy your composite cans without the bottoms sealed on, but with the plugs in place.

The manufacturer of the cans is able to seat the plugs properly with any amount of pressure before they are put on the can body and this will insure their remaining in place during transit. You will, of course, have to fill these cans from the bottom and, with the help of a top-closing machine, seal the metal bottom in place.

Since you are experiencing difficulty with only an occasional package, there is no doubt that this suggestion will result in solving your problem.

Seal with

CEL-O-SEAL

Reg. U. S. Pat. Off.

to make your sales message register at point-of-sale

You can put your quality message, slogan, premium offer, insignia, brand name—or any other sales prompter—right up front where shoppers are sure to see it on attractive "Cel-O-Seal" bands. And you get this *extra* selling display on an area of your package that would otherwise be wasted space!

That's one of the reasons why Ellena Brothers, makers of Regina wines, chose "Cel-O-Seal" closures to feature the Good Housekeeping Seal of Approval on their Wine Vinegar package pictured here. "Cel-O-Seal" not only gives this quality message prominent display, but also fastens a 16-page recipe booklet securely to each bottle "Cel-O-Seal" assures complete closure and cleanliness in shipping, too . . . lets customers know at a glance that the product hasn't been tampered with.

Make your product a real stand-out on the shelf with a distinctive "Cel-O-Seal" band. You can choose from more than twenty colors and countless color combinations for crisp reproduction. We'll be glad to work with you in designing an outstanding "Cel-O-Seal" band for your product. "Cel-O-Seal" Division, E. I. du Pont de Nemours & Co. (Inc.), 2522-A Nemours Building, Wilmington 98, Delaware. "Cel-O-Seal" bands are also sold by Armstrong Cork Company, Lancaster, Pa., and I. F. Schnier Co., San Francisco, Cal.

DU PONT

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DU PONT "CEL-O-SEAL" BANDS

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Equipment and materials

HIGH-SPEED AUTOMATIC PACKAGING
for free-flowing frozen foods, announced by Marathon Corp., Menasha, Wis., is said to mark the biggest advance in the packaging operations of that industry to date. It uses an end-fill carton,

developed by Marathon, in combination with a specially built machine. The new process will enable packers to fill from 200 to 225 packages per minute, it is said, compared with the present average of 115 per minute.

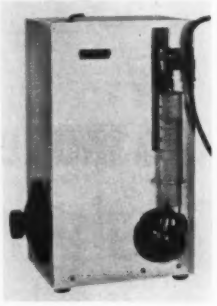
The new package, called the Marapak, is made of solid bleached board, heavily waxed inside and outside, with a special lock at each end. It is of standard retail size and has exactly the same dimensions as the top-opening, hinged-cover package now in use for the majority of frozen foods. The overwraps currently in use will, therefore, fit the new end-fill carton. The company reports tests have proved the new carton superior in excluding air, while being as fully moistureproof as the package now used. However, an additional advantage is that the Marapak flats require only half as much storage space as the present cartons.

The machine, designated as the Marapak Unit, built by the Sprague-Sells Division of the Food Machinery & Chemical Corp., sets up, fills and closes the cartons. Requiring only two operators, the machine does the whole job. Carton flats are placed in a magazine and the machine opens the packages, closes the bottom lock and sends the carton on to the standard volumetric filler, after which the package moves on to be automatically top-locked. No adhesive is required. An automatic take-off device drops the package into two lines for delivery to two wrapping machines—each Marapak Unit requiring two wrapping machines having speeds up to 125 per minute each. The pilot machine has been tested by some of the largest frozen-food packers on both the West and East Coasts. The machine handles either fresh or pre-frozen products.

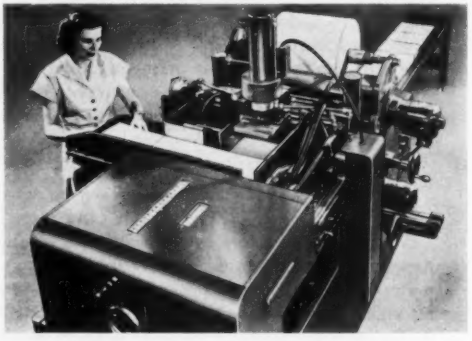
It is planned to have exclusive distribution of the machines handled through the Marathon Service Co. on a rental basis with limited quantities expected to be available for 1951.

A HIGH-SPEED ROTARY LETTERPRESS MACHINE
which incorporates an entirely new concept of individual exchangeable color units is being offered by the Champlain Co., Inc., 88 Llewellyn Ave., Bloomfield, N. J. These exchangeable units permit wash-up, plate changes and the setting up of jobs for the next run without press down time. An auxiliary traveling bed runs on a trolley arrangement the entire length of the press. Each individual color unit is mounted on roller casters for easy extraction from its normal printing position. The auxiliary traveling bed is moved on its track opposite the color unit to be removed from the press. Guide wheels assure proper alignment and the printing unit is easily withdrawn from its press-drive housing onto the auxiliary bed, readily accessible for wash-up, make-ready, etc., while the rest of the press is running. In operation, this interchangeability permits a printer having a two- or four-color press to print one or two colors and, at the same time, set up an additional color unit for the next run. Actually, as many colors as desired can be run, the new equipment being available in any number of color units from one to seven. McKinley automatic vibrating rolls are standard equipment and provide additional rub-out on the form rollers.

AUTOMATIC PIPETTING MACHINES
for use in filling ampoules and vials as well as measuring test reagents is available from Baltimore Biological Laboratory, Inc., 1640 Gorsuch Ave., Baltimore 18, Md. Model 40 is especially recommended for handling large volumes and heavy liquids. It has proved useful in the laboratory for the accurate measuring and dispensing of such products as culture media, but in addition has many commercial uses. It has been used in the pharmaceutical industry for aseptically filling ampoules and small bottles and will handle a volume range up to 60 ml., with an operating speed of from 10 to 50 deliveries per minute. For a volume range up to 6 ml., the company suggests the Model 120, which has an operating speed of from 10 to 150 deliveries per minute.



NEW PAPER-PACKAGING MACHINE
said to embody 20 changes and improvements has been announced by Lynch Corp.'s Packaging Machine Division, Toledo, Ohio. This Model E 1951 Morpac paper-packaging machine



wraps or bands ream paper, pads, tablets, loose-leaf fillers, hard or stitch-bound books, etc., in the following sizes: 5½ to 10 in. wide, 7½ to 15 in. long and ⅜ to 5 in. high. Formerly two machines were required to handle this size range, Lynch reports, and now one operator feeding the machine can produce 1,000 completed packages per hour. Some of the other improvements are: larger, sturdy, cast-iron frame for precision alignment of all internal working parts; size change-over from minimum through maximum takes less than 15 minutes; heater units on

"Who knows my experience better than I do?"

APPLICANT APTITUDE REPORT

NAME Jones Fully-Automatic Cartoning Machine
POSITION Loading Cartons
EXPERIENCE Extensive - Varied
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ACCURACY RECORD Clear
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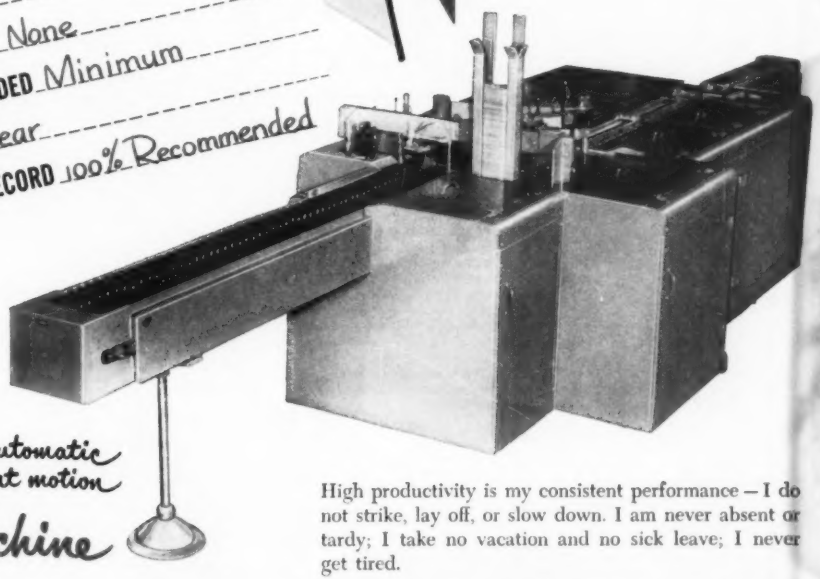

Jones Cartoning Machine
fully automatic constant motion

I HAVE DEMONSTRATED in hundreds of cases that my guaranteed ability to load cartons can and does reduce the need for experienced personnel. That applies to all kinds of loads, from the simplest one-piece load to multiple loads including corrugated liners, leaflets, or other inclosures.

My job training is completed before I go to work for you. Supervision involves merely keeping me supplied with cartons and loads. If a carton is not loaded properly, I stop. I pass no mistakes, no defective or incomplete loads.

High productivity is my consistent performance — I do not strike, lay off, or slow down. I am never absent or tardy; I take no vacation and no sick leave; I never get tired.

DEPENDABILITY — never a hangover, nerves or temperament. I belong to the 25-year club in many plants, and am still going as strong as ever.

In 97 recorded carton loading operations (out of the countless jobs I am handling) my average savings are $36.33 to $189.40 per day, depending on the character of the job and the desired speed of operation.

My record is given in a book of cost comparisons, which is sent FREE on request. Ask for your copy today. Compare your cartoning costs with these authenticated reports of my performance.

R. A. JONES & COMPANY, INC.
Cartoning Machines — Soap Presses

P. O. BOX 2055 · CINCINNATI, OHIO

If you package

LARD or SHORTENING

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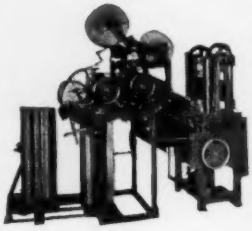
CHEESE, FROZEN FILLETS

or MACARONI

It will pay you to investigate these machines!

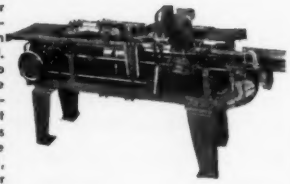
For high speed carton packaging, PETERS offers its "Senior" line of packaging machines, illustrated below.

Besides the "Senior" models, PETERS has available for those with lower production requirements a "Junior" line of very versatile packaging machines.



This PETERS SENIOR CARTON FORMING & LINING MACHINE EQUIPPED WITH AUTOMATIC CARTON & LINER FEEDING DEVICE sets up 60 or more cartons per minute, depending upon size of carton used. Machine is automatic. After cartons are set up, they drop onto a conveyor where they are carried to be filled.

This PETERS D & W TYPE SENIOR CARTON FOLDING & CLOSING MACHINE closes 60 or more cartons per minute, depending upon size of carton used. Fully automatic, no operator required. The packages enter the machine on conveyor belt as open, filled cartons and leave the machine completely closed, ready to be packed for shipment or to be conveyed into a wrapping machine.



Send us samples of the various cartons you are now using. We will gladly forward specific recommendations.

PETERS MACHINERY COMPANY

GENERAL OFFICE AND FACTORY

4700 RAVENSWOOD AVE., CHICAGO 40, ILL.

Equipment and materials

each glued seam for quick setting of liquid adhesive if desired, which is standard equipment; delivery chute lengthened to permit longer package dwell for positive end-flap sealing at minimum temperatures; adjustable seal table does not require spare table plates for size changes.

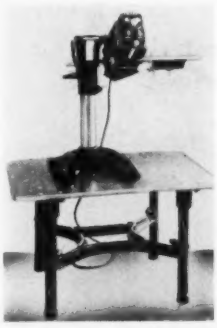
PLASTIC-COATED PAPER CONTAINERS

reported not to transmit paper taste to hot or cold foods are being offered by Sealright Co., Inc., Fulton, N.Y., to the food, ice-cream and paper trades. These all-purpose, all-temperature,

Alservis Nestyle containers have been in experimental commercial use for many products for a year and the company reports results have been satisfactory both as to the holding quality of the container and packaging economy. The new container is plastic coated with a non-absorbent material on side wall, top and bottom, and is supplied with a slip-over cover. Satisfactory commercial tests were made with food products including hot and frozen and from thin liquids to oily salads and fine powders.

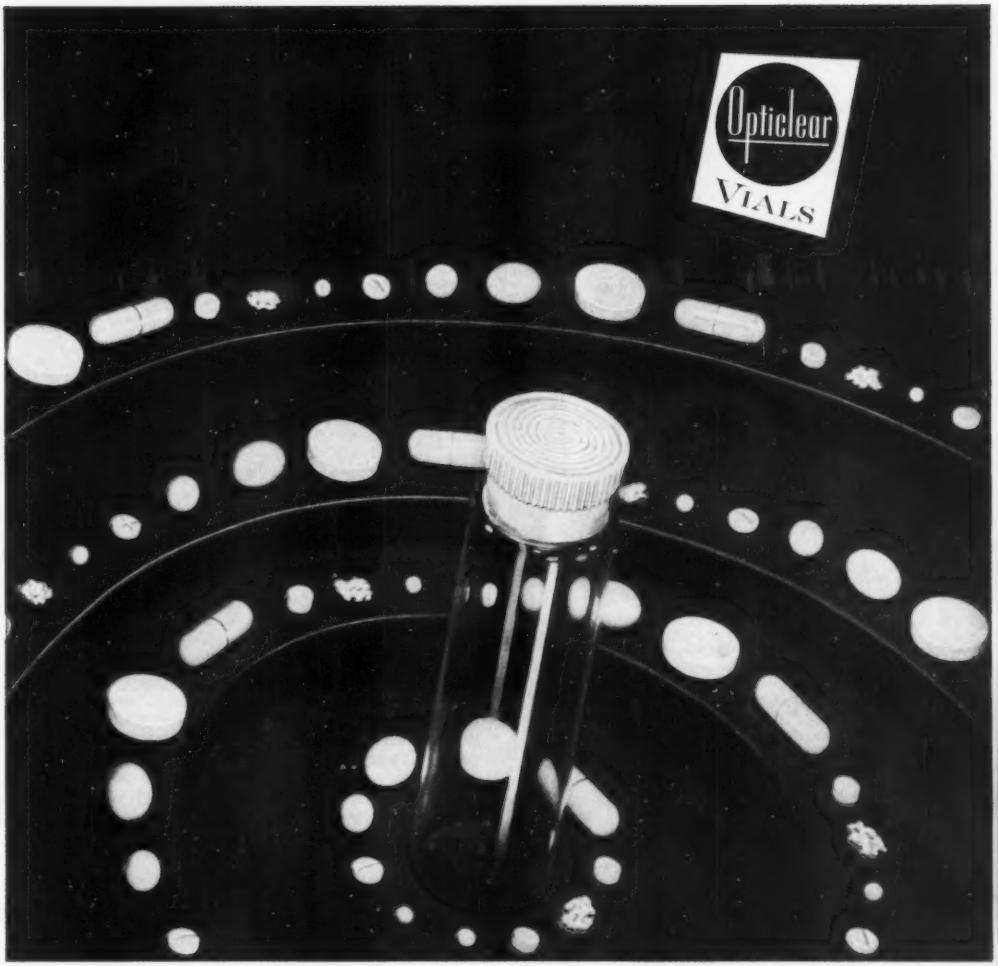
A SMALLER ROTARY BAG-SEALING MACHINE

patterned after heavy-duty sealers is being offered by Amsco Packaging Machinery, Inc., 31–31 48th Ave., Long Island City, N.Y. Incorporating the same principles of fully automatic control of pressure, time and heat, the "Little Giant" rotary bag sealer will probably find wide acceptance by manufacturers with modest requirements. Heat is controlled within close limits by means of a thermostat, assuring uniform heat on light or full loads. The swivel-mounted sealing head is instantly adjustable for sealing bags at any angle from vertical to horizontal. Height, too, is adjustable by setting the split mounting bracket at any required position on the vertical shaft. The machine can be fed from left or right, to suit feeding operation, by simply revising the direction of the motor. Equipped with a "fold-over blade" for folding bag tops, this blade also serves as a top guide both for straight sealing without folding and for header label work.



HEAT-SEALABLE CLOSURE ON WINDOW BAGS

of both the dry- and wet-pack Pek type, made by Union Bag & Paper Corp., 233 Broadway, New York 7, is an added feature to speed up the closing operation and make a neater-looking package. The thermoplastic band, applied to the lip and outside mouth of the bag, is sealable on any standard bag heat sealer or hand-operated mechanism. The dry-pack Pek bags for prepackaging dried produce are made of regular paper with a plain transparent-film window, while the wet-pack Pek bags, made



There are eight sizes of Opticlear Vials to fill your needs.

For your product—a package of distinction

KIMBLE OPTICLEAR VIALS

YOUR PRODUCT certainly merits this quality container. It is lustrous, crystal-clear glass in a design of simple dignity—a distinctive package which bespeaks quality for the product it contains.

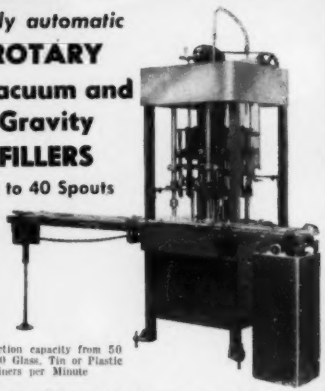
What's more, this handsome vial provides unusual protection. Its new, resilient plastic stopper seals with a positive moisture-proof seal. It keeps products safe and dry. Yet it is easy to open—easy to close. And even continued re-use does not impair its sealing effectiveness.

Wouldn't you like to examine these vials of distinction? Tell us the sizes your product requires and we'll send samples.

KIMBLE GLASS TOLEDO 1, OHIO
Division of Owens-Illinois Glass Company

"Simplicity" is the word for
mrm FILLERS
economical efficient

fully automatic
ROTARY
Vacuum and
Gravity
FILLERS
12 to 40 Spouts

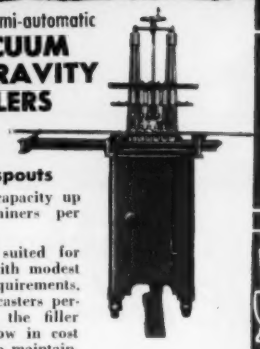


Production capacity from 50 to 400 Glass, Tin or Plastic Containers per Minute

Designed for quick changeover and thorough cleaning. Fills all types of foamy and still liquids—brines, vinegars, chemicals, drugs, perfumes, syrups and cosmetics. All sizes and shapes of containers.

A model for every need—
from 10 to 400 containers per minute

portable semi-automatic
VACUUM
and GRAVITY
FILLERS



4 to 6 spouts

Production capacity up to 30 containers per minute.

Particularly suited for companies with modest packaging requirements. Ballbearing casters permit moving the filler anywhere. Low in cost and simple to maintain. Ideal auxiliary filler.

- Quick changeover from one ounce to quarts.
- Fills directly from floor level reservoir.
- Equipped with its own motor and vacuum pump.
- Fills all foamy and still liquids.
- Extremely compact, occupies little floor space.

Write Dept. MP for literature on complete MRM line.

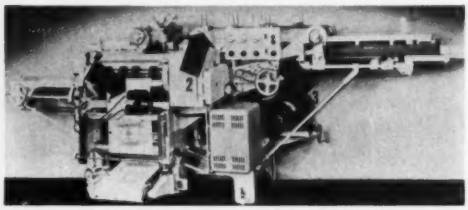
mrm company, inc.
191 Berry Street, Brooklyn 11, N. Y.
Manufacturers of a complete line of fully automatic and semi-automatic filling equipment.

Equipment and materials

from wet-strength paper with a moistureproof anchor-coated transparent-film window, are used for the pre-packing of moist produce.

AN IMPROVED WRAPPING MACHINE

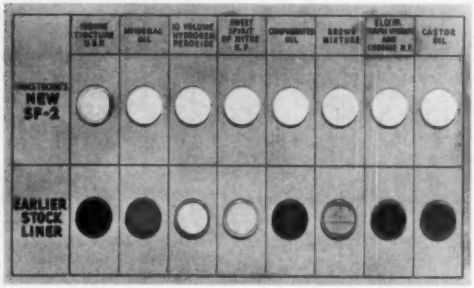
having greater versatility, faster speeds and increased flexibility is now being produced by Battle Creek Bread Wrapping Machine Co., Battle Creek, Mich. Completely redesigned, Model 46 is equipped with electronic controls which permit the machine to



turn out 40 to 100 neatly wrapped packages per minute. "Breathing folders" compensate for package variations and draw the fold and seal tightly around the package. Completely automatic paper trip and package control (1) need no operator to time an intermittent flow of packages into the "continuous-flow" operation of the machine. Calibrated scales (2) provide for quick change-over of package size. A centralized heat-control panel (3) adjusts bottom heat, side heat and pre-heat. Heat-seal materials are pre-heated while they are being wrapped and folded. This, it is claimed, produces a seal that is neater and more durable. The machine is particularly suggested for wrapping frozen-food packages as well as a wide variety of other packages at low cost. Sizes handled range from 3⅝ to 10 in. long; 2¼ to 6 in. wide; 1 to 3 in. high.

NEW PRESCRIPTION LINER MATERIAL

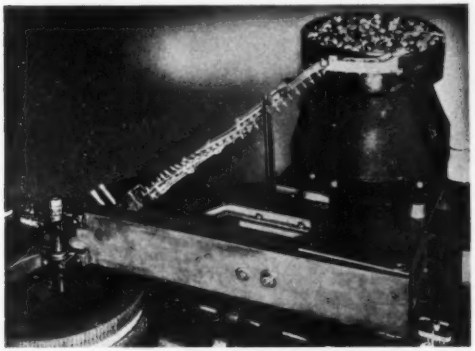
reported to be a more nearly universal facing than any used heretofore has been announced by the Armstrong Cork Co., Glass & Closure Division, Lancaster, Pa. The Standard Insulation Co., working with the Dow Chemical Co. and Armstrong,



developed the new liner material. However, Armstrong had conducted exhaustive tests over a period of 10 years in a search for an improved product. The new liner, called SF-2, is a pigmented saran film bonded directly to a specially processed newspulp. During the study, tests were made of literally hundreds of various lining materials and almost 50 different samples of saran were evaluated. Most of those tested were found to lack the necessary resistance qualities or were rejected for other reasons. SF-2 is described by Armstrong chemists as without doubt superior to any previously available. In tests it was found to have a total chemical resistance rate of 96 compared with 74 and 80, re-

spectively, for two of the foremost materials heretofore used. The aqueous vapor-transmission rate for the new liner material tests 0.7 gram per 100 sq. in. for 24 hrs. at 105 deg. F. and 95% relative-humidity differential as compared with 1.4 and 4.9 for the two materials commonly used. It is claimed SF-2 has excellent mechanical characteristics, permitting highly efficient sealing and also that its use permits easier removal of caps. According to the company, ample supplies of this new liner material are available so that pharmacists and pharmaceutical manufacturers can adopt its use without delay.

SPOUTING MACHINE
for the automatic application of lead spouts to lighter-fluid and oil cans, developed by Louis Mandel of Slick Shine Co., Newark, N.J., is now being manufactured by Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo, N.Y. Spouts are fed



by means of a vibrating hopper into the new spouting machine which in turn feeds them onto the cans as they move along an automatic conveyor from the filling machine. From this point, continuing on the conveyor, the cans go to the crimping machine. According to Mr. Mandel, in whose plant the new machine is now installed, it is capable of speeds up to 200 spouts per minute. Prior to the development of this machine, spouts were placed on the cans by hand as they moved along the conveyor belt. The machine is claimed to require little or no maintenance after initial adjustments are made.

POLYSTYRENE BOXES MADE WITHOUT ADHESIVES
are being fabricated by Paris Paper Box Co., 15 Rusfield St., Boston 19, Mass., from Polyflex, an oriented polystyrene semi-rigid sheet produced by Plax Corp., Hartford, Conn. The crease-holding ability of the material is said to permit such fabrication without the use of either adhesives or heat-sealing techniques. The box maker reports that the material is stronger than cellulose acetate and easier to work with. The material is creased and die cut at the corners to permit insertion of tabs into channels formed by the creasing. Paris Paper Box Co. suggests another use of the material as a flap for the top of display boxes from which units are to be removed, one at a time, as they are sold, because the material lies flat without curling at the edges.

RAYON-CLOTH BAGS FOR BULK PACKAGING
are being distributed nationally by Chase Bag Co., 309 W. Jackson Blvd., Chicago 6, Ill., in addition to their regular line of

Rayco
DAY-GLO® Fluorescent FLOCK
By arrangement with Switzer Brothers, Inc.

A really NEW idea to make your package stand out

Write for color samples and source of supply for DAY-GLO Flocked paper.

Please direct all inquiries concerning DAY-GLO FLOCK to

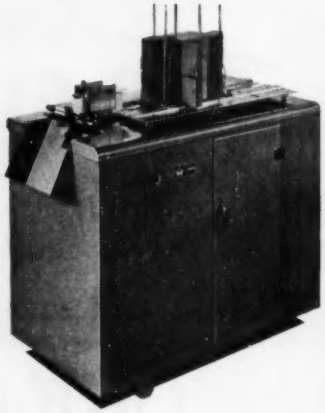
Rayon Processing Co. of R. I., Inc.
PIONEER PRODUCERS OF SURFACE-COATING FLOCKS

Save labor costs with the

TUCK-O-MAT

trade mark

tuck end carton set-up machine



MODEL 50
24" x48"—
Floor Space
Wt. 350 Lbs.
Mounted on
Rubber Wheels
Patents Pending

Sets Up Wider Range of Sizes
More versatile than any other machine on the market! Adjustable to: end sizes ⅜"x⅞" to 4"x5"; lengths 1¼" to 12".

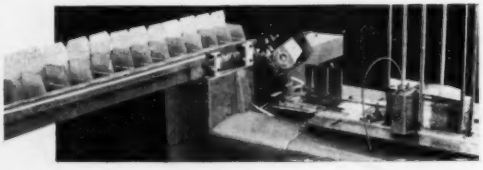
Changeover Time 10 to 20 Minutes

Speed—30 to 75 Per Minute

Easily Moved from Job to Job

Simple Inexpensive Change Parts

Ball Bearings Throughout



MODEL 54—Everything of Model 50 PLUS
"CONVEY-O-MAT" Patents Pending
Just drop in your product! (Operator can help load in spare time.)

See how the outstanding low-cost TUCK-O-MAT can soon pay for itself. Write for names of well-known users in your area, complete information.

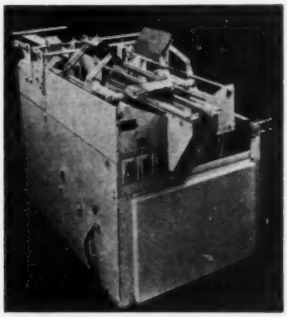
Machinery Mfg. co. inc.

2431 Dallas Street, Los Angeles 31, California
Dist. by New Jersey Machine Corp., Hoboken, Cincinnati, Chicago, Los Angeles

Equipment and materials

textile bags. Introduced in the Southwest as containers for feed, seed and other agricultural commodities, these rayon bags, the company found, were readily accepted and proved popular with thrifty housewives because of their re-use value for making blouses, shirts, pillowslips and even luncheon cloths and napkins.

NEW CELLOPHANE-WRAPPING MACHINE
developed especially for wrapping frankfurters, in retail packages of 1 lb. or less with five-sided visibility, for self-service meat counters has been announced by the Miller Wrapping & Sealing Machine Co., 18 S. Clinton St., Chicago 6, Ill. This machine, however, has proved to be suitable also for the wrapping of a variety of other products such as sliced luncheon meats, bacon, textiles and conventional goods in boxes and trays.



The machine, called the Corley Model CM, wraps frankfurters without the use of a tray or box.

Frankfurters may be assembled on a flat paperboard base or, if preferred, no base at all need be used. The secret of the tight wrap produced lies in its principle of compressing the frankfurters slightly from the ends as it draws the cellophane down and underneath them.

For wrapping frankfurters, this Model CM may be used either by itself or to finish packages previously banded on a scale platform, or in conjunction with the Corley-Miller BL sheeter.

The Model CM working in conjunction with the BL sheeter on banded frankfurters or sliced meats assembled by weight or count will produce up to 35 tightly wrapped packages per minute. The machine is simple to adjust for packages from 3½ to 16 in. long, 1 to 10 in. wide, ¼ to 5 in. high.

CASE-LINER ADHESIVES
that meet the Joint Army and Navy Specification JAN-P-140 are now being offered by the Industrial Products Div., The Flintkote Co., 30 Rockefeller Plaza, New York 20. They are said to conform to the specifications for strength, mold-resistance, fungi-resistance and water-resistance in use with triplex-creped or triplex-and-pleated barrier materials (as in Type 1) and duplex-uncreped, coated, saturated or asphalt-infused sheets (Type 2). This Flintkote No. 704 is compounded for slow and fast tack range as required in the specification A and B grades. It is applied as seam sealers and closures for waterproof paper bags, wraps and case liners. Testing samples will be furnished on request and the company will work with customers on machine- and hand-application problems.

COLOR-STAMPING AND EMBOSSING MACHINE
for leather, plastics, paper and paperboard has been introduced by the Hambro Machinery Division, 27–33 W. 20th St., New York 11. This power-driven Universal Stampomatic is said to handle many items that heretofore could be stamped or embossed only in hand-operated presses. Small in size, the air-operated unit is noteworthy for its "cushioned-pressure" principle. Further, it is self-compensating for variations in thickness—an advantage of special importance to manufacturers of leather goods and plastic items. The automatic sliding bed reciprocates under the head of the machine, facilitating make-ready and eliminating

PLIABLE
TRANSPARENT

Saran film

ACID-RESISTANT
MOISTURE-PROOF
ALKALI-RESISTANT

now PROVED BEST available material for CAP LINER STOCK!

Distinctively styled caps lined with saran film are available in a range of sizes from Armstrong Cork Company, Glass and Closure Division, 5910 Prince St., Lancaster, Pa. The saran film liner stock was specifically constructed by Standard Insulation Company, East Rutherford, N. J.

AFTER extensive testing of many cap liner materials, the Armstrong Cork Company adopted a saran film laminate as the best-suited material available to meet the universal need for prescription cap liners with proved chemical inertness, toughness and excellent aging characteristics. This choice was made because saran film is resistant to attack by nearly all chemicals, including acids, alkalies, organic solvents and salt solutions. This permits the use of a single type of closure liner for a wide variety of products.

In addition to its broad chemical resistant qualities, saran film also possesses an exceedingly low water vapor and gas transmission rate. Of prime interest to both civilian and military packagers is the fact that these excellent chemical and physical properties of saran film, so important in cap liners, can also be incorporated in the production of unit packages, pouches, or overwraps for drugs, cosmetics and many food products. Write Dow today for complete information and let us put you in touch with saran film converters who can supply your packaging needs.

Plastics Division • Packaging Section

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington
Atlanta • Cleveland • Detroit • Chicago • St. Louis
Houston • Los Angeles • San Francisco • Seattle
Dow Chemical of Canada, Limited, Toronto, Canada

cut out—send in today

The Dow Chemical Company
Plastics Division, Dept. MTOF-1
Midland, Michigan

Please send me information on unit packages, pouches and overwraps in saran film laminated constructions similar to cap liners

★ *For information regarding saran film cap liners, contact your cap or liner supplier.*

Name _____ Title _____

Company _____

Street _____

City _____ State _____

DOW plastics

A coffee company in the Southwest was "giving away" an average of 1/8 oz. with every 1 lb. package due to overweights. Now, with Triangle Elec-Tri-Pak Weighers, they weigh and fill packages to an average accuracy of *plus or minus 1/32 oz.* Maximum variation is only 1/16 oz. — underweights are rare. The saving in coffee alone averages *$35.00 per day!* . . . enough to pay for the machine in only 100 days operation.

The new Elec-Tri-Pak machines fill bags, jars, cartons, cans by weight to hairline accuracies like these:

- **Coffee ± 1/32 oz.**
- **Gran. Sugar ± 1/32 oz.**
- **Onions ± 1 piece**
- **Cookies, candies ± 1 piece**
- **Potato chips ± 1/16 oz.**

How much of your product are you giving away? Triangle precision weighers will curb your generosity. WRITE TODAY explaining your requirements. ASK FOR BULLETIN.

TRIANGLE PACKAGE MACHINERY CO.

6627 W. DIVERSEY AVENUE, CHICAGO 35

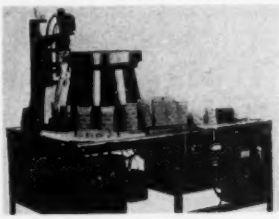
Sales Offices: New York • San Francisco • Los Angeles • Boston
Jacksonville • Baltimore • Dallas • Portland • Denver

Equipment and materials

the necessity for placing hands under the head of the press when feeding. A sliding top plate, which swings face up to the operator, simplifies the mounting and cleaning of dies. Extra plates are available for jobs that are run frequently, as are chases and self-centering pallets for type and slugs.

AUTOMATIC COUNTING AND PACKAGING

of small parts such as washers, nuts, pins, etc., is made possible by a new machine being placed on the market by Inter-Lakes Engineering Co., 4845 Bellevue, Detroit 7, Mich. The machine, known as the Count-O-Pack, is designed not only to speed up packaging, but also to eliminate the possibility of making errors in counting.



The various-shaped parts are placed in a circular hopper of the electronic vibrator type which carries them upward on a spiral track past an electric-eye counting mechanism to an unloading trough, through which they are discharged into a carton or envelope at the bottom of the trough. All the operator need do is to keep the machine supplied with cartons and the hopper filled with a sufficient number of parts to insure efficient operation. The machine is equipped with a multiple-station dial-indexing mechanism to accommodate cartons or envelopes of various sizes. The electronic counter is adjustable from 1 to 999 and push-button control is provided for starting and stopping the machine.

After the container has been filled with the proper count, the indexing mechanism causes it to be ejected automatically onto a conveyor for the closing operation, while the operator inserts an empty container into the index station for another cycle.

NEW PLASTIC FILM TAPE

for heavy-duty industrial use has been made nationally available through paper jobbers by Minnesota Mining & Mfg. Co., St. Paul, Minn. This newest member of the "Scotch" brand family of pressure-sensitive tapes, No. 472, is made of vinyl plastic film and is reported to withstand acids, alkalies, salt solutions, water, alcohols, ethers and hydrocarbons such as gasoline and kerosene. Caliper is 9 mils in comparison with 4 and 6 mils on other plastic-film tapes produced by the same firm. It comes in black only, in ½-, ¾- and 1-in. widths on 36-yd. rolls.

A BAG FLATTENER AND PALLET LOADER

has been introduced by Flexoveyer Mfg. Co., 1220 S. Acoma St., Denver 10, Colo. This power-driven unit has a series of endless steel-coil springs running over grooved steel rollers, forming the conveying medium. By means of a tension spring and a rocker-arm connection between the upper and lower conveyors, a kneading and pressing action is applied to the bag which eliminates air and distributes the contents evenly, producing a flat bag which piles better and is said to save as much as 30% in space. The discharge conveyor section is raised or lowered by means of a hydraulic ram so that bags can be piled on pallets and follow the height of the tier.

A SECOND SERIES OF RECIPE END LABELS

to promote the sale of bread at the point of purchase is being offered by Pollock Paper Corp., Columbus 16, Ohio. The original series was mentioned in the December, 1950, issue of MODERN PACKAGING. This second series includes 64 full-color illustrations showing uses of the product.

It's the Extra Strength, Full Weight and Uniform Size That Customers Like in GAYLORD BAGS

Store owners and clerks like them, too — everyone appreciates a rugged bag that can stand the gaff of sharp corners of packages, bottles and heavy cans.

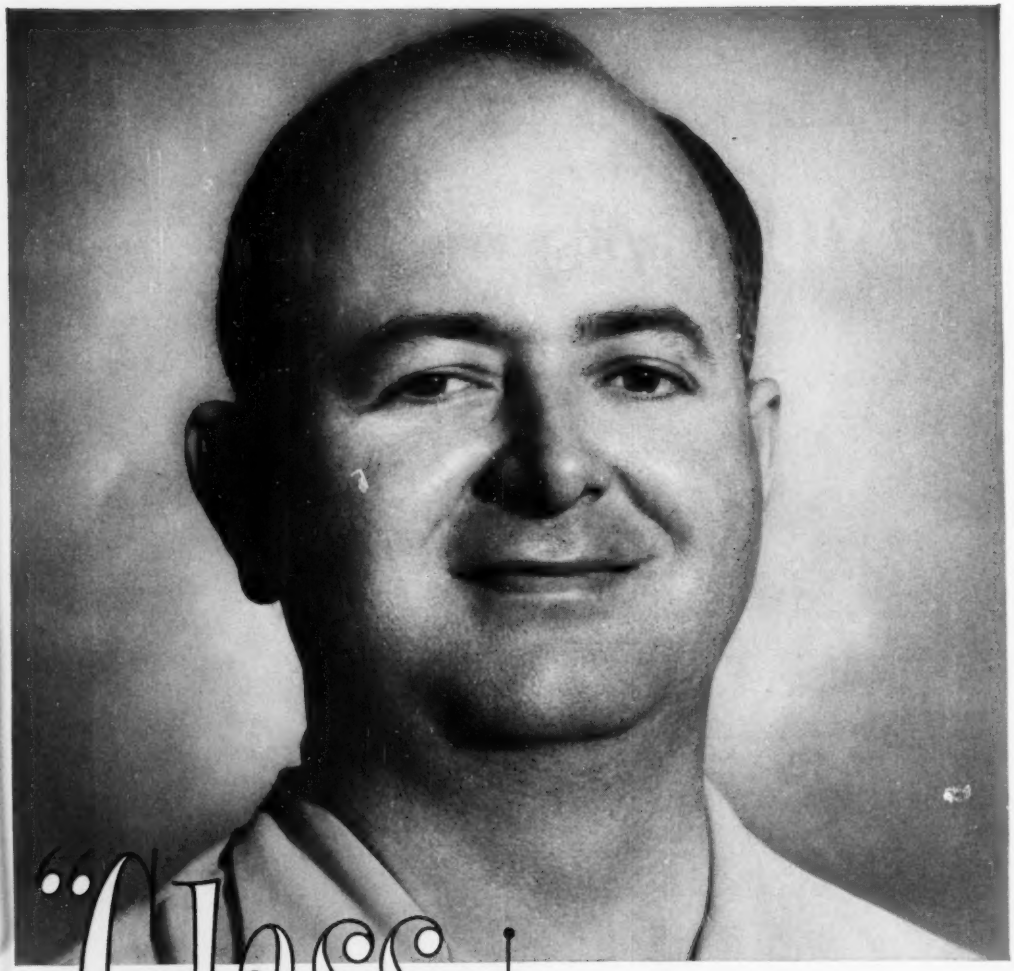
Gaylord makes paper bags and sacks of every description: for department stores, drug stores, super markets, clothing stores, liquor stores, and many others — all have found they can depend upon Gaylord to produce bags to fit their exact requirements.

Kraft Bags and Sacks • Kraft Paper and Specialties
Corrugated and Solid Fibre Boxes • Folding Cartons

Gaylord Bags

GAYLORD CONTAINER CORPORATION

General Offices: ST. LOUIS



"Glass PRODUCES EXTRA SALES"

says Albert Galyan
Owner, Galyan Market
Indianapolis, Indiana

"When we want to insure the results of displays, we invariably look to items in glass containers which provide maximum sparkle, color, and attractiveness. Items in glass sell themselves, and in addition, produce extra sales because they lend themselves to impulse sales.

"We feel that glass is a tremendous merchandising advantage in today's self-service selling."

The only visual package for processed* foods is GLASS!

Through promotion of impulse sales the canned goods department can win a greater share of the shopper's dollar.

Proof of this was established by careful market tests in The American Stores of Philadelphia. There, the new technique of putting glass and tin packs side by side in the same space previously used for tin alone paid off, *in every instance*, by increased TOTAL SALES.

Why not put glass to work for you *now*? Its sparkle catches customers' eyes... Its showmanship encourages impulse purchases . . . It increases TOTAL SALES of your products.

*Heat-sterilized in container

Duraglas CONTAINERS SELL FOOD BY SIGHT

OWENS-ILLINOIS GLASS COMPANY • Toledo 1, Ohio • Branches in Principal Cities

Life and sparkle are added to foods in Duraglas containers. Impulse sales come easier.

To get BIG volume, here is how the Galyan market has used glass in special mass display.

Plants and people

William Heller, Sr., chose his 65th birthday at a luncheon for executives of **Milprint, Inc.,** Milwaukee, Wis., to announce his resignation as president to become chairman of the board of directors of the company. **Roland N. Ewens** moves up from executive vice president to the posts of president and treasurer. **Arthur Snapper** succeeds Mr. Ewens as executive vice president and also retains his post as secretary. Other officers are **Roy E. Hanson,** vice president and director of sales; **Bert Hefter,** vice president and sales manager; **Lester R. Zimmerman,** vice president in charge of the Midwest area; **Shy Rosen,** vice president in charge of Eastern operations; **C. K. Billeb,** vice president in charge of plant operations. At the luncheon, Mr. Heller was presented with a water-color painting of himself which will be hung in the lobby of the new plant now being completed at Milwaukee.

Houdeshell

The appointment of **Daryl F. Houdeshell** as manager of the Meat Packaging Division of Milprint has been announced. Mr. Houdeshell, formerly assistant manager of the department, will have complete charge of the Meat Division, including the development and sales of new packaging materials.

Fred A. Weymouth has been designated by the board of directors as a divisional vice president of **International Printing Ink Division of Interchemical Corp.** Mr. Weymouth has been with the company since 1937, located in the Chicago Factory and Research Laboratories.

Weymouth

F. L. Wurzburg, Jr., until recently head of the IPI Precision Color Laboratories, has assumed new responsibilities with the company. He will head up all IPI activities in setting up color standards and color-uniformity controls for IPI customers. Temporarily he will also continue as IPI's liaison technician in connection with the Interchemical Scanning Machine development program under an agreement between RCA and Interchemical. Mr. Wurzburg will be located at 636 Eleventh Ave., New York.

J. H. DuBois, formerly vice president of the Shaw Insulator Co., has been appointed manager of new product development of **Plax Corp.,** a subsidiary of **Hartford-Empire Co.,** Hartford, Conn.

Arthur H. Miller, for many years general manager of the Manhattan Paste & Glue Co., has resigned to form his own company, the **Arthur Miller Adhesives Co.,** 246 Fifth Ave., New York. The new company reports it is now able to supply any quantities of liquid glues, pastes, flexible glues, cold-water soluble glues, animal and dehydrated glues, dextrines and resin emulsions.

The board of directors of **Gaylord Container Corp.,** St. Louis, Mo., have elected the following additional directors: **Charles W. Goodyear, Jr.,** of Bogalusa, La.; **George F. Goodyear,** Buffalo, N.Y.; **Gilbert R. Pirrung,** Bainbridge, Ga. The following division vice presidents have also been appointed: **C. E. Taylor,** Eastern Division; **L. J. Rosenberg,** Southeastern Division; **J. P. Tarantino, Jr.,** Florida Division; **W. M. Carter,** Southern Division; **Lloyd Merwin,** Texas Division; **F. R. Buhrmaster,** Central Division.

Chicago Show Printing Co. announces the appointment of **Ralph A. Hodges** as its point-of-sale representative in the Cleveland area, with offices at 1836 Euclid Ave., Cleveland. **J. Robert Missett & Associates,** 1240 Whitney Ave., Hamden, Conn., have been named as the company's representatives in Connecticut.

Continental Can Co.'s modern, new Fairfield (Birmingham), Ala., lithographing and enameling plant, built to serve the growing requirements of Southeastern canners and packers, is now in operation.

Tom W. Brown, Jr., has been appointed Southern sales manager of **Arkell & Smiths,** Canajoharie, N.Y. Mr. Brown is moving his headquarters from Houston, Tex., to Mobile, Ala., where the company has a new large multiwall-bag plant.

Standard Cap & Seal Corp. of New York announces the opening of a new **Flex-Vac** sales and service office at 333 N. Michigan Ave., Chicago, to handle the increased demand in the Midwest for this flexible vacuum packaging for meat and cheese. **Frank Kimball** is in charge of the new office.

Frank W. Egan & Co., manufacturers of machinery for the paper-converting and plastics industries, have acquired new offices at 115 Lincoln Blvd., Bound Brook, N.J. These offices will take care of the expanded design and drafting departments, the laboratory for demonstrations of converting and drying equipment and the export division of the company.

Celebration of the 50th anniversary of the **Gardner Board & Carton Co.,** Middletown, Ohio, was observed last month at a civic dinner in Middletown with about 600 guests, including employees with 30 years or longer service, members of management, civic, industrial and community leaders of the area. The golden jubilee celebration symbolized the company's growth from one small board mill with 48 employees in 1900 producing 8,000 tons of paperboard to its current operations with 2,000 men and women producing 200,000 tons of board annually. Highlight of the dinner was the presentation of a 50-year pin to **Edward T. Gardner,** president and the only living co-founder of the company. Also presented to Mr. Gardner was a watch in behalf of the Gardner management as a 50th anniversary remembrance. **Wellmore B. Turner,** Dayton attorney and chairman of the board of the Gardner company, delivered the principal address at the dinner. **Colin Gardner,** director of the company and executive vice president in charge of sales, was toastmaster. At the dinner, the establishment of the Gardner Scholarship Fund was announced by **Edward T. Gardner, Jr.,** vice president in charge of finance. The fund has been established so that 16 students—eight from the Middletown area and eight from the Lockland-Reading and greater Cincinnati area—will receive financial aid for a college education from the fund when it is in full operation. Each scholarship will carry an annual grant of $500 a year for college tuition and expense in a list of outstanding colleges or universities not dependent on federal, state or municipal funds for support and which have an accredited four-year course leading to a B.A. or B.S. degree.

E. T. Gardner

James J. Filas, a member of the sales staff of Acme Steel Co., Chicago, for over 25 years, has been appointed manager of the newly-created Fastener Department. This department will be responsible for the development of steel specialty items used for fastening and tacking.

Charles A. Lee, Jr., has been appointed manager of retail box sales for the **Gardner Board & Carton Co.,** Middletown, Ohio. Mr. Lee has been with the company since 1946.

The appointment of **Maurice D. Smith** as Eastern sales manager for the Waxed

This H & D corrugated display box makes barbeques extra fattening — for sales figures!

The customer is "just looking for a fork to roast hot dogs"—until she spies this gay yellow and black display, with its clever Hamburgrill and its Cube Steak Broiler. Then her picnic menu suddenly expands beyond "just wieners"—and sales figures expand beyond "just forks for roasting hot dogs."

H & D package action can increase profits on *your* products, too, by such grouping of related items for tie-in sales, or by giving better display . . . providing secure protection . . . increasing multiple sales. Write for H & D's 11-volume "Little Packaging Library." Hinde & Dauch, 5101 Decatur St., Sandusky, Ohio.

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FACTORIES IN: Baltimore • Buffalo • Chicago • Cleveland Detroit • Gloucester, N. J. • Hoboken, N. J. • Kansas City, Kan. Lenoir, N. C. • Richmond, Va. • Sandusky, Ohio St. Louis • Watertown, Mass. *Offices in principal cities.*

Like Two Magic Words,-

"OPEN HERE" on every package of...

NABISCO CRACKER MEAL · CALGONITE

ELECTRASOL · STERLING SALT

SOILAX · NIAGARA LAUNDRY STARCH

points to the "finishing touch" in packaging—a merchandising plus-value—

SEAL SPOUT*

SEAL-SPOUTS have high consumer appeal because *they're so easy to open and close—and help protect package contents against moisture and infestation.*

You, too, can add prestige to your packages of free-flowing products with these *aluminum pouring spouts*—right in your production line.

The process is simple, fast and efficient.

We invite your inquiry without obligation.

*T.M. Reg. U.S. Pat. Off.

SEAL-SPOUT CORPORATION
363 Jelliff Ave., Newark 8, N. J.

Plants and people

Paper Division of the **Pollock Paper Corp.**, Dallas, Tex., has been announced. Mr. Smith will continue to make his headquarters in Harrisburg, Pa.

Chester A. Gage, vice president in charge of sales, **National Starch Products, Inc.**, has announced his retirement from active business. He will, however, remain as director and consultant for the company. Mr. Gage, a veteran of more than 35 years in the industry, has held many offices in the various trade groups of the packaging and paper fields and participated in much of the progress in the field of adhesives and starches.

Gage

George N. Roberts, Jr., has been appointed office manager of the **Bemis Bro. Bag Co.'s** plant and sales division in Los Angeles. Formerly in the company's general offices in St. Louis, Mr. Roberts fills the post of **C. J. Wassilak**, who is returning to military duty.

K. E. Stober has been named plant manager of the **Dow Chemical Co.'s** new Styron plant now under construction at Allyn's Point, Conn. Other Midland personnel transferring to the Eastern plant in the fall of 1951 include **J. Lloyd McCurdy**, production superintendent; **Frank Schubert**, laboratory director in charge of inspection and control; **William Western, Jr.**, production foreman. **Earl Appelquist** has already assumed his new duties as chief accountant at the Eastern operation.

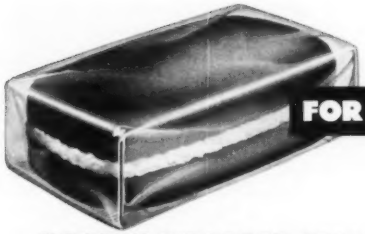
George W. Ross, formerly general sales manager of the **H. P. Smith Paper Co.**, Chicago, has been elected vice president in charge of sales. Mr. Smith joined the Smith organization in 1949. He formerly was with Munising Paper Co.

Ross

Irving H. McCaughey, formerly with Clement Moore Associates, Inc., has joined the firm of **Worden & Risberg,** management consultants and industrial managers, Philadelphia, Pa. He will be in charge of the newly formed paper box division.

Kimberly Clark Corp., Neenah, Wis., announces the following appointments and personnel changes in its sales division: **T. E. Hall** has been transferred to sales

LONGER SHELF LIFE



FOR CAKES · COOKIES · CRACKERS · DONUTS

MODERN WRAPPER SEALS FLAVOR AND FRESHNESS IN... MOISTURE OR DRYNESS OUT!

This modern mechanical wizard wraps with "Oven Freshness" and *without breakage* at amazing new speeds... drastically lower costs! Uses materials of all types such as cellophane, glassine, foils, etc., and delivers in continuous feed up to 120 units fully glued or heat sealed — regardless of shape. Only one operator and one helper required. Reduce down-time and eliminate old-fashioned packaging bottlenecks now with the Campbell Wrapper. Write for illustrated brochure and complete details.

Standard models — designed for individual needs with Straight, L, or Hopper feed.

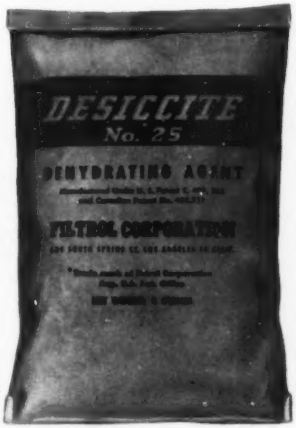
Wraps products of all types and shapes

Campbell WRAPPER

HUDSON-SHARP MACHINE CO. · GREEN BAY, WIS.
Manufacturers

New York Office
55 West 42nd St.

*have you tried...



Packagers everywhere are using Desiccite #25*—the highly efficient and economical drying agent in packaged form.

Used by the Navy, Army and Air Corps to prevent damaging effects of moisture, Desiccite #25 is a solid, inert, harmless desiccant.

When placed in your product containers, Desiccite #25 will control moisture pick-up and insure the factory-freshness and newness of your products through storage, transit, and shelf-life.

Dry pack with DESICCITE #25

Desiccant Division Filtrol Corporation

General Offices: 727 West Seventh Street, Los Angeles 17, California

Available in principal cities everywhere.

*T.M. REG. U.S. PAT. OFF.

THIS SYNTRON PARTS FEEDER is feeding checkers . . . all face up . . . single file . . . at a variable rate . . . automatically . . . to a packaging machine. BUT IN YOUR PLANT . . .

SYNTRON PARTS FEEDERS

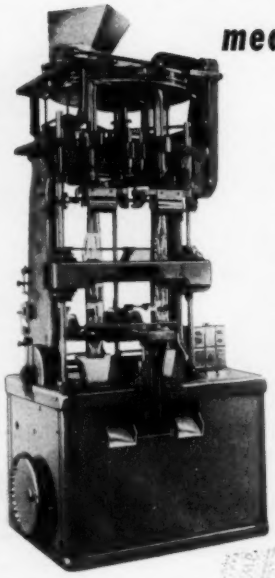
Will feed without damage parts of most shapes, sizes and materials to grinders and presses, inspection and packaging devices, and other automatic processing equipment. WRITE for catalog data, or send details of your problem along with sample parts for testing to . .

SYNTRON CO.
250 Lexington Ave. Homer City, Pa.

TRANSWRAP

POWDERS TABLETS FREE FLOWING SOLIDS LIQUIDS OR SEMI-LIQUIDS

a better "BAG" means PLUS sales ... at lowest costs



Show your product. Step up your sales with a package that will lead the competition in today's self-service merchandising. Transwrap gives you more eye-appealing package — a package that shows your product — ***lets it sell itself.*** *The first automatic packaging machine to satisfactorily heat-seal polyethylene at high speeds, Transwrap offers you the biggest buy in economy packaging today.* **If you use any of these heat-sealed "bag" materials, Transwrap can cut your packaging costs in half:**

- ☐ Polyethylene
- ☐ Pliofilm
- ☐ Cellophane
- ☐ Vinylite
- ☐ Glassine
- ☐ Metal foil
- ☐ kraft papers
- ☐ "tea bag" papers
- ☐ laminated stock
- ☐ vegetable parchments

Volumetric Unit *— designed to package larger-sized, free-flowing products—40 to 75 units per min. Meters down to 1 item per package—up to unlimited quantities (within 80 cu. in.). Fed by volumetric cups. Pillow packages—with or without gussets . . . 1-13/16"x3" to 5¼"x13". Size—4'x5' 8½': wght. — 2330; ¾ h.p. geared motor; 1640 volts.*

✓ **These exclusive Transwrap advantages**

• added strength and resilience of bag • precision forming of bag • uses economical, double-width rolls • easy-to-open serrated edges • prevents puckering, distorting, or gumming of bag material

TRANSPARENT-WRAP MACHINE CORP.

Want to cut your packaging costs? Write for our 8 pg. brochure—it's free! Shows every Transwrap model—gives details of economy operation; it's a complete "package" on modern packaging economy! Use this coupon today!

Need help? Transwrap's engineering staff will be glad to assist you in analyzing your packaging requirements . . . make specific recommendations designed to improve your production—at lower costs.

TRANSPARENT-WRAP MACHINE CORP.

142 Rt. 17, Hasbrouck Heights, N. J.

- ☐ Please send your free 8-page brochure
- ☐ Have one of your sales engineers contact me—**rush!**
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Name ..... Title.....

Company .....

Address .....

City ..... State .....

Plants and people

representative for Kimpak creped wadding, with headquarters in St. Louis, Mo., to serve Missouri, Kentucky, Oklahoma, Texas, Arkansas, Louisiana, Mississippi and parts of Illinois and Tennessee; **David W. Coons** has been named sales representative, Kimsul insulation, with headquarters in San Francisco, to serve Northern California and Western Nevada; **Gordon Bailey** has been appointed sales representative, Kimsul insulation, with headquarters in Atlanta, Ga., to serve Alabama, Georgia, Florida, North Carolina, South Carolina and Southern Mississippi.

General offices of the **California Packing Corp.** are now located at 215 Fremont St., San Francisco 19. The new telephone number is Sutter 1-7760.

Julian S. Coleman has been elected president of the newly formed **Facile-Artistic Corp.** Mr. Coleman was president of the **Artistic Mfg. Co.**, which has been acquired by the **Facile Corp.** of Paterson, N. J. The new firm will be located at 675 Fifth Ave., New York, and will be exclusive selling agent for the Facile Corp.'s complete line of ribbons. Continuing as sales manager under Facile-Artistic Corp. will be **Daniel Halpern.**

Coleman

Construction has started on a 100,000 sq. ft. building in Chicago's Addison-Kimball District, which will be leased to the **American Cyanamid Co.** At present the Cyanamid organization occupies office and warehouse space in numerous locations in Chicago. When the new building is completed in March, all operations will be consolidated in the new location.

The Stokes & Smith Co., a subsidiary of **Food Machinery & Chemical Corp.**, recently held a two-day sales conference at its plant in Philadelphia. Representatives from California, Florida, St. Louis, Chicago, Cincinnati, Rochester, New York City, New England and Canada attended the meeting.

C. Aird Moffat, president of the **Barger Box Co., Inc.**, has announced the sale of the paper-box business and the formation of a new company to be called **Barger Box & Printing Corp.**, with offices at 802 W. Beardsley Ave., Elkhart, Ind. The new company will continue the set-up and folding box departments and will also ex-

The mark of accurate glass finish

One of the many reasons Armstrong's glass containers perform well on any filling line is the accuracy of their finish. A pioneer in perfecting glass finish, Armstrong offers you containers unequalled for sure safe seal. Ask your Armstrong representative for details or write to Armstrong Cork Company, Glass and Closure Div., 2301 Prince St., Lancaster, Pennsylvania.

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DECORATED PAPERS
Aniline or Gravure printed. Embossed. Stock and custom designs.
GREASE-PROOFS
All types and grades readily adaptable to end-use conversion.
WATER-VAPOR BARRIERS
Wax or Asphalt laminated, coated, treated or impregnated.
SPECIALTY BAGS
Large or small — Tailor-made to meet any requirement.
SPECIAL TREATMENTS
Non-staining wraps, Rust inhibitors, Mold and weather-proof papers, Strength re-enforced papers.
in a SINGLE hand!
THILCO protective papers cut packaging costs by providing wrappings in MORE versatile combinations...
There's practically no limit to the inclusiveness and wide scope of functional, protective wrappings that are yours with THILCO papers. Besides a full range of standard types, our paper engineers can furnish you with custom-made wrappings singly or in laminated combinations to meet even the most unusual packaging requirement. With THILCO — you get all these from one single source . . . a decided advantage because it saves you time and money, handling and freight, and provides better service all-around. Consult with us on your needs. There's no obligation, of course.
THILCO
Functional Papers
THILMANY PULP & PAPER COMPANY • KAUKAUNA • WISCONSIN

Plants and people

pand the printing department. Additional equipment will be added for lithographing and commercial printing. Officers of the new company are: **Ralf M. Welch,** president; **Charles D. Vickers,** vice president; **J. M. Stenberg,** secretary.

George W. Blackwood has been appointed general sales manager of the **Dewey & Almy Chemical Co.,** Boston, Mass. Mr. Blackwood was formerly the general manager of the company's rubber specialties division.

Blackwood

Recently elected to the board of directors of Dewey & Almy are **Dr. Edwin R. Gilliland,** professor of chemical engineering at Massachusetts Institute of Technology, and **Henry L. Gilbert, Jr.,** Dewey & Almy's vice president in charge of overseas sales.

Cromwell Paper Co., Chicago, makers of paper bags and tympan paper, have announced plans for the construction of a new 25,000 sq. ft. addition to their Chicago plant. The new building will be erected at 3048–60 W. 48th Pl., across the street from the company's main offices and factory at 4801 S. Whipple St.

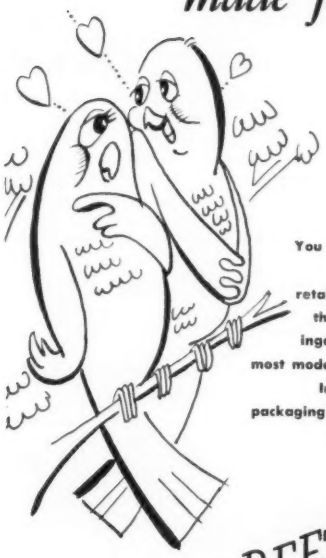
Harold W. Kephart, formerly with Reynolds Metal Co. and United Board & Carton Corp., is now head of the newly organized **Paperboard Laminating Corp.,** 237 Main St., Norwalk, Conn. The company specializes in laminating paperboard to foil and fancy paper for use by folding-box and display manufacturers, paper book-match makers, etc., and also is manufacturing a war packaging membrane. Other officers are **Hugh D. Catty,** vice president; **Louis C. Krauthoff,** secretary and treasurer; **U. C. Shropshire,** in charge of manufacturing.

Donald Macaulay has established a paper quality-control and evaluation service under the firm name of **Donald Macaulay, Inc.,** at Chappaqua, N. Y. Mr. Macaulay was with the S. D. Warren Co. for 15 years and for five years headed his own paper company, Donald Macaulay Papers.

Lloyd N. Langdon, Chicago district sales manager of **Pyroxylin Products, Inc.,** died suddenly of a heart attack recently.

David A. Barry, Jr., president of **The Butterfield-Barry Co., Inc.,** New York, makers of boxboard, died of a heart attack recently. He was 56 years of age.

made for each other



YOUR PACKAGING APPLICATIONS

REET*
2 GAUGE CALENDERED VINYL FILM

You can now enjoy the advantages of a calendered product and still retain the economy of a thin film, thanks to unsurpassed technical ingenuity at work in the world's most modern film producing facilities. Investigate its uses for your packaging requirements and we know that you'll agree that

If it's REET it's right!*

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ROSS & ROBERTS SALES CO., INC.
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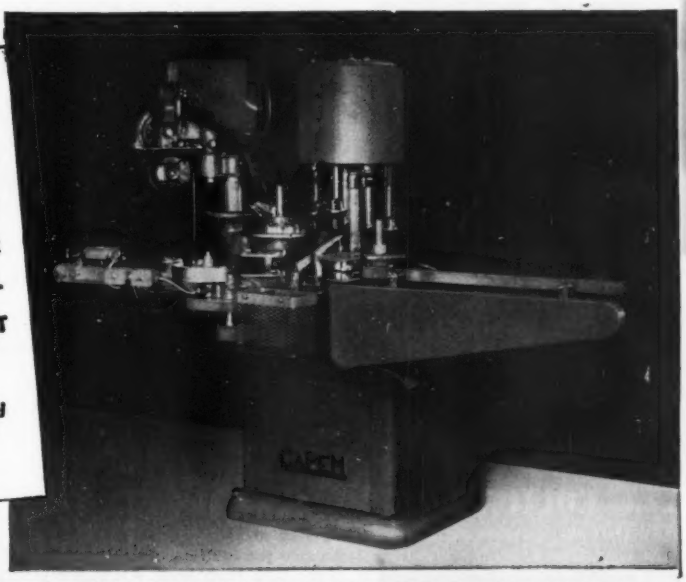
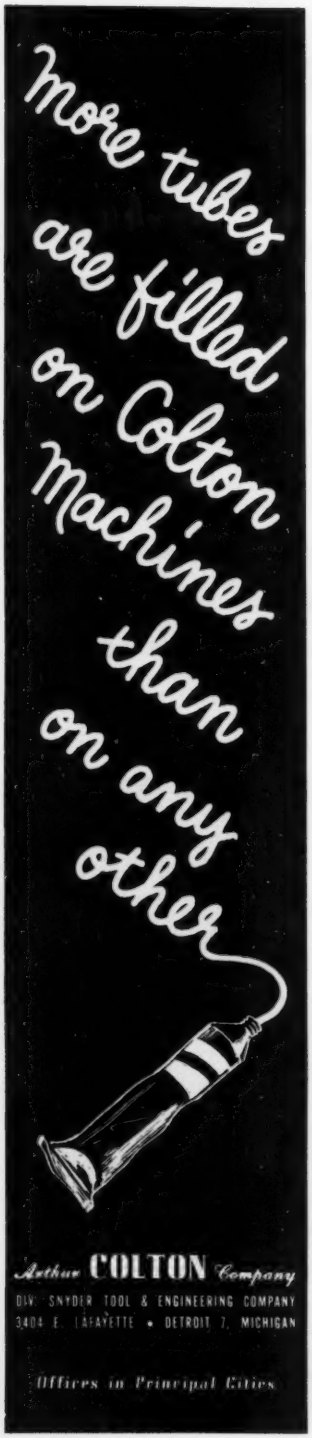
CAPEM

. . . APPLIES ANY SCREW-CAP AT 2,000 TO 10,000 AN HOUR . . . DELIVERS A LEAK-PROOF SEAL . . . AT LOW COST

Available in 1, 2, 4, 6 and 8 spindle models
Write for prices



CONSOLIDATED PACKAGING MACHINERY CORP.
BUFFALO 13, N.Y.


more tubes are filled on Colton Machines than on any other
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For your information

The Society of Plastics Engineers, Inc., will hold its Seventh Annual National Technical Conference Jan. 18 to 20 at the Hotel Statler, New York. The conference is being sponsored jointly by the Society's New York and Newark Sections. In addition to technical sessions, the conference will feature the S.P.E. annual luncheon, election of national officers, presentation of awards to winners in the Society's Prize Paper Contest and the annual banquet.

The motion picture depicting the history of the folding paper box industry, which the **Folding Paper Box Assn. of America** is producing, is near completion. Studio work has been finished on the West Coast and the film is now being edited and cut. The premiere of this film will be held at the association's annual meeting to be held in March.

The American Public Relations Assn. recently presented to **Robert Gair Co., Inc.**, New York, manufacturers of paperboard, folding cartons and shipping containers, a silver anvil trophy, the top award, in the Industry (Manufacturing) classification for the most notable 1949–50 public-relations performance. The presentation was made to **Wilbur F. Howell**, secretary and director of public relations of the Gair company at a special luncheon in Washington, D.C. The public-relations program for which this award was given is a three-year plan to bring to the attention of high-school students in Rockland County, N.Y., and to train them for the jobs available locally in Gair Cartons Division, Piermont, N.Y., of Robert Gair Co., Inc.

The findings of a recent study completed by the **Packaging Institute** have been published as Advisory Service Report No. 294, titled "How to Handle the Person from Outside Who Brings in a New Idea, Plan, Product or Package." Chief value of the report, beyond its survey of the field, lies in the reproduction of the text of letters used by some of the best-known companies to cope with the problem of unpatented ideas presented to them. Copies of the report are available at $5 each from the Packaging Institute, 342 Madison Ave., New York 17.

The semi-annual meeting of the **Packaging Machinery Mfrs. Institute** will be held at the Hotel Dennis, Atlantic City, N. J., on April 16, according to **Boyd H. Redner**, Institute president and general manager of the Battle Creek Bread Wrapping Machine Co.

Two memorial golf trophies have been presented to PMMI in memory of **Wallace D. Kimball** and **H. Kirke Becker** as a permanent memorial to these former industry leaders. First presentations of these trophies—handsome silver bowls—were made at the Institute's recent annual meeting at Hot Springs, Va., to this year's golf tournament winners: **Walter P. Fergnani** of Post Machinery Co. and **William A. Scheurer** of Exact Weight Scale Co.

The Assn. of American Railroads announces the availability of General In-

What's Doing

Jan. 18-20—**Society of Plastics Engineers**, seventh annual national technical conference, Hotel Statler, New York.

Jan. 29-31—**American Pharmaceutical Mfrs. Assn.**, Eastern Section, convention, Hotel Roosevelt, New York.

Jan. 29-31—**National Dairy Council**, convention, President Hotel, Kansas City, Mo.

Feb. 12-14—**American Pharmaceutical Mfrs. Assn.**, Central Section, convention, Edgewater Beach Hotel, Chicago.

Feb. 13-14—**Canadian Food Processors Assn.**, convention, Ritz-Carlton, Montreal.

Feb. 15-17—**National American Wholesale Grocers Assn.**, convention, Drake, Chicago.

Feb. 16-21—**National Canners Assn., National Food Brokers Assn., Canning Machinery & Supplies Assn.**, convention and exhibit, Stevens, Chicago.

Feb. 19—**Coated & Processed Paper Assn.**, annual meeting, Hotel Commodore, New York.

Feb. 19-23—**Technical Assn. Pulp & Paper Industry**, annual meeting, Hotel Commodore, New York.

Feb. 25-March 2—**National Frozen Food Industry**, convention, Hotel St. Francis and Palace Hotel, San Francisco.

Feb. 26-March 1—**New York Gift Show**, Hotels Statler and New Yorker, New York.

Feb. 28-March 2—**Society of the Plastics Industry**, Reinforced Plastics Div., 6th annual technical meeting, Edgewater Beach Hotel, Chicago.

Feb. 28-March 3 **Federal Wholesale Druggists' Assn.**, convention, Hotel Statler, New York.

"Well begun, is half done!"

Start Right...

with the package!

Only *Your* Package goes home with *Your* Product!

Does your Package . . .

1. Name the product?
2. Describe the product?
3. Point out product uses?
4. Suggest care of product?
5. Suggest multiple purchase?
6. Give pride of ownership?

OLD DOMINION

Box Company, Inc.

Plants located throughout the South

Executive Offices: LYNCHBURG, VA. • *Sales Offices:* CHARLOTTE, N. C.

FACTS AND FIGURES ABOUT

LABEL FINISHING...

Let's honestly assess the cost of

PYROXCOTE

FINE LABEL COATINGS

as compared to ordinary label finishes

Take Pyroxcote 14-36-3 for example. This famous paper lacquer is noted for its resistance to abrasion, its gloss and watershedding properties. It weighs 7.9 lbs. per gallon and contains 46% non-volatile. It costs about $2.00 per gallon. Hence, 7.9 lbs. × .46 = 3.6 lbs. of solids in each gallon. Each gallon worth $2.00 is thinned with thinner costing 47c — so that each pound of film costs $2.47 divided by 3.6 = $.69.

On most CIS sheets 1.25 lbs. per 1,000 sq. ft. of lacquer film is adequate. Thus, the lacquer cost per 1,000 sq. ft. is 1.25 × $.69 = $.87.

With present high prices for other paper and label finishes — now is the time to refigure — re-evaluate — compare quality.

There are dozens of Pyroxcote paper finishes—some moistureproof, others heat sealing, greaseproof, or just plain beautiful to behold! Let us discuss your needs.

WICHITA KANSAS

PYROXYLIN PRODUCTS, Inc.
CHICAGO 32

PAOLI PENNA.

For your information

formation Series No. 514, "Recommended Method of Loading Large Straight Sided Fibreboard Drums in Closed Cars," which has been prepared as a guide to shippers. Copies of this publication are available without cost from the Secretary, Freight Loading and Container Section, 59 E. Van Buren St., Chicago 5, Ill.

October 22, 23 and 24, 1951, have been selected by the board of directors as the dates for the **13th Annual Forum** of the **Packaging Institute.** The forum will be held at the Hotel Commodore, New York, according to **Charles O. Kendall** of E. R. Squibb & Sons, Institute president.

Sixteen chapters of the **American Material Handling Society** will participate in the program planned for the **Materials Handling Conference** to be held concurrently with the **National Materials Handling Exposition** at the International Amphitheatre, Chicago, April 30–May 4. The 16 participating chapters are in Boston, Buffalo, Chicago, Cleveland, Detroit, Houston, Indianapolis, Los Angeles, Louisville, New York, North Texas, Pittsburgh, Syracuse, Toledo, Toronto and Western Michigan. Advance registration cards for both the conference and exposition may be obtained from Clapp & Poliak, Inc., exposition management, 341 Madison Ave., New York 17.

A special program in food technology will be offered at the **Massachusetts Institute of Technology** during the 1951 Summer Session from June 25 to July 13. The course is designed to define and examine recent scientific developments important to the industry. Sessions will be held Mondays through Fridays and among the subjects to be covered are Food Packaging, Food Cost Accounting & Business Law, Sterilization of Food by Electronics, Food Control Instrumentation and Materials Handling. Tuition for the course is $100 and only registrations for the entire course will be accepted. Further information may be requested from Professor Walter H. Gale, Director of the Summer Session, Room 3–107, Massachusetts Institute of Technology, Cambridge 39, Mass.

A recently issued color-sound slide film titled "Selling Butter" presents an informative story of merchandising this food item, emphasizing today's requirements for butter packaging and merchandising at the retail level. The recent packaging research carried on at the Universities of Minnesota, Wisconsin and Ohio State and

the Marketing Division of Dunn & Bradstreet, Inc., are reported throughout the film. The film is being offered on a loan basis free of charge to all interested groups by the **Paraffined Carton Research Council** and is suggested for showing to all groups of retailers. Further information about the film may be obtained by writing the Council, 111 W. Washington St., Chicago 2.

The Gardner Board & Carton Co., Middletown, Ohio, has published a book titled "This is Gardner," in commemoration of the company's 50th anniversary. It contains a history of the company and its policies, a visual story of its growth and plans for the future. Of particular interest is a flow chart recording the processes of making paperboard and folding cartons.

Lucian Bernhard, New York package designer and designer of contemporary type, tells how to use Bernhard Modern, Bernhard Modern Bold and Bernhard Tango types in a new 12-page booklet published by **American Type Founders.** ATF is mailing the booklet, accompanied by three four-page specimen sheets to printers, typographers and others who work with type reproduction. Others interested may request copies from the ATF Advertising Dept., Elizabeth, N.J.

Basic principles of unit packaging, the equipment for making them, their advantages, as well as uses and adaptations, are explained in non-technical language in a booklet recently published by **The Ivers-Lee Co.** The 20-page publication, titled "Unit Packaging," illustrates the various units used for different types of products, together with packages used for merchandising them. Copies of the booklet are available on request to the company, 215 Central Ave., Newark, N. J.

A basic text and reference covering the mechanical and technical elements of graphic reproduction, written by the late **Harry A. Groesbeck, Jr.**, and titled **"A Primer of Engraving and Printing,"** has recently been published (Colton Press, Inc., New York; $2.50). The book is designed to provide the beginner in the graphic arts a basic understanding and the more experienced a renewed grasp of fundamentals of graphic reproduction.

Printers and lithographers will be interested in the latest publication by **Rutherford Machinery Co., Division of Sun Chemical Corp.**, titled "Lithographic Equipment and Special Machinery." This 16-page catalog contains 41 photographs of the company's precision-built equipment, including collapsible-tube coating and printing machines, paper-container printers, silk-screen printers and many other machines. Copies of the catalog may be had from the company's Dept. MA4, 10th St. and 44th Ave., Long Island City 1, N. Y.

KNOWN THE WORLD OVER

The model illustrated has a printing width of 30" and the cylinder circumferences vary from 30" to 40". Press is supplied for one to six colors. Note provision for fusing by heat and water cooled rollers after each printing unit. Also made in 12" and 18" printing widths with cylinder circumferences up to 22".

REMEMBER THE NAME

Halley Engineered

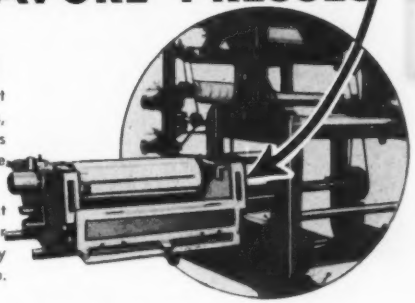
SINGLE & MULTICOLOR

ROTOGRAVURE PRESSES

AN EXCLUSIVE HALLEY FEATURE

Complete printing unit slides out for easy changing of cylinders, ink and other parts. Shortens make-ready time. Printing pressure controlled by air.

Send samples of your present labels, wrappers, or inserts or specific analysis of what a Halley Rotogravure press can do for you.



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JAMES HALLEY & SONS LTD., WEST BROMWICH, ENGLAND

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MID-WESTERN DISTRIBUTOR

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TELEPHONE: BUCKINGHAM 1-4330

Hand Wrapping Too Slow?
Automatic Equipment Too Expensive?

Using this wonderful little motorless machine three operators can turn out 1000 packages every hour, each perfectly wrapped and sealed in cellophane or acetate film.

The X-Cello meets the needs of those who have wrapping jobs which are too large to be handled economically by hand wrapping, and which are not large enough to warrant the purchase of expensive high-speed wrapping machinery.

Custom Built to Package Size
Each X-Cello wrapper is built for a specific package and is not adjustable. This keeps its purchase price low and guarantees foolproof operation. There's no expensive set-up time.

Solvent or Heat Seals
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• MANUFACTURERS' LITERATURE •

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PAPER TUBE MACHINES. Winders, cut-offs, gluers, and other machines for making and finishing spiral and convolute wound paper can bodies are described. 12 pages. M. D. Knowlton Co. **(1-900)**

LITHOGRAPHIC EQUIPMENT. Illustrated brochure containing data on process cameras, step and repeat machines, offset printing machines, and a full line of equipment for lithographic printing. 18 pages. Rutherford Machinery Co., Div. of Sun Chemical Corp. **(1-901)**

TEST WEIGHT KIT. Information on a set of precision weights and measures for maintaining control of scales, filling machines, etc. Exact Weight Scale Co. **(1-902)**

COLLAPSIBLE BOX WORKBOOK. Extensive discussion of the better known styles of collapsible boxes and the machines for making them. Contains machine specifications and numerous possible box layouts. 74 pages. The International Paper Box Machine Co. **(1-903)**

LIQUID FILLING MACHINES. Description and specifications of three models of MRM semi-automatic vacuum filling machines. Includes schematic drawings. M. R. M. Co., Inc. **(1-904)**

MAILING MANUAL. 16-page illustrated handbook giving up-to-date postal regulations and rates, carton styles, board specifications, etc., for designing packages for economy and protection in the mails. Calumet Carton Co. **(1-905)**

GRAVURE EQUIPMENT. Advantages and descriptions of two ATF Klingrose rotogravure presses, and the unwind and rewind roll stands for use with them. Klingrose Gravure Div., American Type Founders. **(1-906)**

PACKAGING FOR CANADA. Leaflet containing hints on the use of cellulose film on packages destined for Canadian use. British Cellophane Ltd. **(1-907)**

LABEL PASTE. Technical service bulletin on Paisley Grip-Tight label paste for use in affixing paper labels to metallic and non-metallic surfaces. Contains properties, applications, and instructions for use. Paisley Products Inc. **(1-908)**

TEKWOOD. Folder containing a description of the material and suggesting various uses in containers, displays, toys, luggage, etc. United States Plywood Corp. **(1-909)**

CAN MAKING MACHINES. Specifications and features of Hamilton-Kruse strip feed presses and end curlers for making can ends, screw caps, sardine boxes and other light stampings. Lima-Hamilton Corp. **(1-910)**

FLOCK. Card containing fifteen color samples of washable, sunfast, colorfast Behrlon micro-cut fibers. Behr-Manning. **(1-911)**

MULTIWALL BAGS. Twenty-page booklet describes proper storage, filling, closing, handling, and palletizing of multiwall paper bags. Bemis Bro. Bag Co. **(1-912)**

BOTTLE CROWNS. Advantages and manufacturing methods of Bond bottle crowns are described in this illustrated booklet. Bond Crown and Cork Co., Subsidiary of Continental Can Co. **(1-913)**

PLASTICS GUIDE. Description of various Bakelite and Vinylite plastics and resins with applications in packaging and other industries. 24 pages. Bakelite Div., Union Carbide and Carbon Corp. **(1-914)**

TICKET PRINTER. Small press for imprinting tickets, tags, and labels with price and style information is described in this four-page folder. Markem Machine Co. **(1-915)**

HEAT SEAL MANUAL. Manual containing the latest information about Pervenac and Imac heat seal papers including general and individual characteristics, base stocks, advantages and economics, heat sealing equipment, and printing, storage and handling suggestions. 30 pages. Nashua Gummed and Coated Paper Co. **(1-916)**

POLYVINYL ACETATE EMULSIONS. Booklet covering the theory of emulsions and dispersions, properties and compounding. Contains list of applications for these materials within the packaging industry. American Polymer Corp. **(1-917)**

CASE SEALER. Described are several models of the ABC Short Case Sealer which occupies a minimum of floor space. Includes specifications and floor plans. ABC Packaging Machine Corp. **(1-918)**

PREPACKAGING FOR POTATOES. Various types of bags designed for prepackaging potatoes are illustrated and described with their various features and advantages. 12 pages. Union Bag and Paper Corp. **(1-919)**

MATERIALS AND METHODS FOR ENGINEERED PACKING. Given are suggestions for packing radio tubes, glassware, gallon jugs, pictures, mirrors, beds, etc., with Protex packing materials. Illustrated. American Excelsior Corp. **(1-920)**

PARAFFLEX 535. Description and specifications of a formulated wax that is flexible and tough, for heat seal coatings without the use of additives. Boler Petroleum Co. **(1-921)**

ANILINE PRINTING INKS. Color guide to aniline printing inks for cellophane, containing printed sample. 20 pages. Shows different two-color combinations of BBD Excellopake inks for all types of cellophane and other plastic films. Bensing Bros. and Deeney. **(1-922)**

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SAVINGS IN SHIPPING. Given are specifications and illustrations on steel strappers, stretchers, sealers, steel-strap accessories, unit-load equipment and accessories, and strapping. Information given on making use of this equipment. 32 pages. Acme Steel Co. (1-923)

HIGH SPEED AUTOMATIC ROTARY BAG SEALING MACHINE. High speed automatic rotary bag sealers for both heat sealing and non-heat sealing bags available for practically every type bag and bag material are described in this bulletin. Specifications and illustrations are included. Amsco Packaging Machinery, Inc. (1-924)

FILLING MACHINE. The Type GAG machine for filling ice cream, pastes, and the like into small paper containers is illustrated and described. Specifications are included. Arenco Machine Co. (1-925)

HEAT SEALER. Complete details on use of hand heat sealer, which welds cellophane and other plastic films air-tight, liquid-tight, and moisture-tight, for the home, retail store, locker plant and wholesale establishment. The Dobeckmun Co. (1-926)

CAPPING. Information on screw caps and the capping chuck is given. Also, the Two Head and Four Head Rotary Cappers are illustrated and described with complete specifications. 8 pages. Pneumatic Scale Corp., Ltd. (1-927)

CUTTER AND CREASER. Construction, pressure control, control appliances, ease of handling and technical specifications of the Bobst Autoplaten automatic cutter and creaser are given in this folder. H. H. Heinrich, Inc. (1-928)

PACKAGING MACHINE. The fully automatic Model A-1 Pak King machine used for packaging spices, foods, coffees, concentrates, teas, grated cheese, chemicals, soaps, etc., in cans, canisters, bottles, jars, or cartons, is illustrated and described. Specifications are given. Weigh Right Automatic Scale Co. (1-929)

TANDEM LABELERS. Six-page bulletin describing and illustrating construction and operation, with floor plans for twin, triple and 4-unit World Tandem labelers for 75 to 300 bottles per minute. Economic Machinery Co. (1-930)

AUTOMATIC SHIPPING CASE IMPRINTER. Floor plans, specifications, features, illustrations, etc., are given on this Packomatic automatic shipping case imprinter, which prints from one to eight lines on one to four panels. J. L. Ferguson Co. (1-931)

SET-UP BOXES. Illustrated folder showing various set-up boxes in use by leading manufacturers. The features and advantages of using set-up boxes are also presented. Old Dominion Box Co., Inc. (1-932)

BUNDLING MACHINE FOR SMALL PACKAGES. The Model F-10-J Bundling Machine for small-sized packages is described in this bulletin. Specifications and diagrams are included. Package Machinery Co. (1-933)

SLITTER. The Kidder Merchant Model Slitter, designed for accurate cutting, easy separation of rolls, clean dustless cuts, and high speed, is illustrated and described. Specifications are also given. Kidder Press Co., Inc. (1-934)

BUTTER WRAPPING MACHINES. Loose leaf bulletin giving specifications, features, illustrations, and other information on the Morpac Junior Wrapping Machine used for butter, oleomargarine and related products. Lynch Corp. (1-935)

BAGGERS. The Anderson Model 134 Bagger used for the handling of small paper bags and the Model 184 Bagger are both presented in this bulletin. Anderson Bros. Mfg. Co. (1-936)

CAN SEALER. An automatic can sealer used in the edible oil industries to seal cans using the standard one inch seal is discussed in this bulletin. Resina Automatic Machinery Co., Inc. (1-937)

DISPLAY OPPORTUNITIES WITH SYROCOWOOD. Various display opportunities at point-of-sale using SyrocoWood, a molded wood product of extreme durability, are presented in this 12-page fully illustrated brochure. Syracuse Ornamental Co., Inc. (1-938)

AUTOMATIC WEIGHER. Illustrated four-page leaflet giving the principle, description, weight range and products handled, feed and operation, maintenance, accuracy and speed, and labor requirements of the Model M Hy-Tra-Lec used for weighing and filling free-flowing and semi free-flowing dry products. Wright Machinery Co. (1-939)

CANNING BELTS. This illustrated bulletin describes various types of conveyor belts, the advantages of flanged belts, the advantages of endless belts, the proper care of conveyor belts in general, and pertinent data on belts made by The B. F. Goodrich Co. (1-940)

HANDLING AND SHIPPING MATERIALS. 16-page booklet describes the "Power-Pack" method of handling and shipping materials in unit loads on expendable, corrugated fiberboard pallets. Specifications are given. Addison-Semmes Corp. (1-941)

HELPFUL HINTS. One dozen valuable suggestions to help users obtain fullest value from cellophane wraps. Supplement includes data on the effect of product moisture and relative humidity. Film Dept., E. I. du Pont de Nemours & Co., Inc. (1-942)

SEALING CORRUGATED BOXES. Discussion of the methods for sealing corrugated shipping boxes with tape, glue, metal staples, straps, and wires. Contains many helpful ideas. 24 pages. The Hinde & Dauch Paper Co. (1-943)

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U. S. patents digest

Edited by H. A. Levey

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps are not accepted.

Shipping Container with Provisions for Protecting Corners of Contents, S. Stimmel, Bronx, N.Y. U. S. 2,526,052, Oct. 17. A one-piece shipping container comprising a corrugated paperboard panel with end portions folded upward and inward, means holding end portion in their folded condition so as to form an abutment at both ends of the top surface of panel for preventing endwise displacement of an article resting on the panel.

Container Closure, E. Gronemeyer, Pompton Plains, and S. Cherba, Totowa, N.J. U. S. 2,526,225, Oct. 17. A device adapted to close an inwardly constricted opening in a container, said device including a thin-walled stem adapted for insertion into said container opening, the stem being made of a relatively stiff elastomer.

Packaging Metal Sheets for Shipment, R. O. Hammer (to Carnegie-Illinois Steel Corp., a corporation of New Jersey.) U. S. 2,526,228, Oct. 17. A shipping package of metal sheets comprising a stack of superposed co-extensive sheets, a plurality of aligned rows of spaced short-length skids on which said stack rests, lengthwise ties encompassing said stack and said skids lengthwise of the latter.

Hinged Container, P. H. Bronnenkant (to Smith Victory Corp., Buffalo, N.Y.). U. S. 2,526,458, Oct. 17. A container comprising two hinged members, each member being formed with a hinge arm and a hinge lug spaced therefrom.

Air Supply Control for Can-Filling Machines, H. D. Ayars, Syracuse, N.Y. U. S. 2,525,851, Oct. 17. A machine for filling cans comprising a frame, a tank rotatably mounted in frame, a plurality of measuring tubes carried by tank, an outlet valve for each tube, stationary cut-off plate extending over a limited number of tubes, means for opening outlet valves when beneath plate, a compressed-air supply down through the plate and over the tubes beneath the plate, inlet valve for air supply and means for advancing empty cans beneath the tubes and cut-off plate.

Closure for Containers, M. Freeman, St. John, Wash. U. S. 2,525,888, Oct. 17. A closure for boxes and the like comprising, in combination, a box top having inturned edges upon three of its sides, a frame attached to the upper sides of the inturned edges and having a rectangular opening in that side adjacent the side of the box top not having an inturned edge, this equipped with guide members to which a cover slidably is mounted, cover having metallic handle affixed.

Bottle-Sealing Device, J. R. L. Martin (to Coty, Inc., Wilmington, Del.). U. S. 2,526,622, Oct. 24. A bottle mouth-sealing device comprising a substantially hollow tubular body of resilient plastic material, a shoulder formed adjacent one end of said body and a hollow, substantially conical member having its rim integrally joined with the inner wall of body at approximately the center of inner wall and apex extending toward an end of body, conical member being of resilient plastic material so as to exert an outward thrust against inner wall.

Container, J. C. Seager and P. J. Jension (to Niemand Bros., Inc., Long Island City, N.Y.). U. S. 2,525,958, Oct. 17. A package comprising an ampoule having a cylindrical body terminating in a top shoulder, a restricted neck projecting therefrom and a container having a tubular body member enclosing first body with a closure at the bottom thereof.

Wrapping Machine, J. W. May (to Wright Machinery Co., a corporation of North Carolina). U. S. 2,526,824, Oct. 24. In a wrapping machine an elevating wheel having a plurality of product-receiving compartments mounted thereon, a receiving box for said product, means for transferring the product from one of the compartments mounted thereon and means for feeding a wrapper.

Capsule-Filling Device Having a Standard, a Rotatably and Slidably Mounted Platform and Rotatably Mounted Spreader Means Thereon, J. Nordman, Montgomery, Ala. U. S. 2,526,965, Oct. 24. A capsule-filling device comprising a base, a standard carried by base, a platform slidably mounted on standard, said platform having a plurality of capsule-receiving openings, an upstanding circular guide and retaining flange carried by the platform and spreader means mounted rotatably.

Container, L. Morgan, Toronto, Ontario, Canada. U. S. 2,527,025, Oct. 24. A container blank comprising an elongated, generally rectangular sheet of relatively stiff foldable material, a slot extending transversely of said sheet about midway between the ends and stopping short of the sides thereof, with transverse opening on each side of slot and adjacent thereto.

Bag Closure, R. A. Port (to International Paper Co., New York, N.Y.). U. S. 2,527,073, Oct. 24. A sealing means for the closure of a gusseted, notched-corner, multiwall bag wherein is provided a line of stitching securing the opposing walls of open end of bag and disposed in a plane above that of the horizontal shoulder of the notch, comprising a sealing strip medially folded and adhesively secured to the exterior surface of each bag wall and overlying the stitching.

Carton, G. E. Wauda (to Marathon Corp., Rothschild, Wis.). U. S. 2,527,167, Oct. 24. A collapsible carton formed from a single blank suitably cut, scored and glued to provide a foldable tray having front, rear and side walls, a foldable cover hinged to said rear wall and having a folded locking flap.

Bag Closure, R. A. Port (to International

Continental is the largest producer of utility containers in the U. S. The Continental line of steel containers includes lug cover pails, utility cans, flaring pails and closed-head drums in light and heavy gauges. After serving their original purpose, they can be re-used in many different ways.

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It's a Big Success. In operation now for only 16 weeks—but going strong—this plan is already inspiring our men to make that good Rhinelander paper even better than ever, with benefits to us all—worker and customer alike.

If this plan interests you, we will be happy to tell you more about it.

U. S. patents digest

Paper Co., New York, N.Y.). U. S. 2,527,074, Oct. 24. A closure for the open end of a multiwall paper bag which includes a notched corner having a substantially horizontal shoulder portion inset from the bag end and an upwardly extending portion extending between bag end and said shoulder portion, and having a weakened line for a ripping string.

Multicompartment Box, C. Huye and M. Huye legatees of J. G. Huye (to Huye Space Saving Box System, Inc., New Orleans, La.). U. S. 2,527,221, Oct. 24. A box body formed with opposed pairs of anchor flanges, said flanges being resiliently connected with box body and each flange being formed with an anchoring toe, in combination with a partitioning and spacing element having end portions formed with slots to receive, respectively, pairs of anchor flanges.

Machine for Packing Cans and the Like, T. Gorman, Jr., Newark, N.J. U. S. 2,527,252, Oct. 24. In a machine for packing cans, the combination with a feed for filled cans of a rotary collector adapted to collect from the feed a plurality of cans in laterally spaced position, means for retracting the collector, means for feeding partition members intermediate the assembled cans and means for inserting boxes to receive said cans.

Machine for Applying Labels to Moving Webs, N. W. Lyon and W. Luczek (to Package Machinery Co., East Longmeadow, Mass.). U. S. 2,527,272, Oct. 24. A machine for forming labeled wrappers which comprises means for advancing a web of wrapper material, a cutting member to sever a predetermined length of material from which to form a wrapper and a supporting member over which the web passes in its travel to the cutting member.

Apparatus for Manufacturing Valve Bags, D. Belcher, R. J. Williams and J. E. Veege (to Bemis Bro. Bag Co., St. Louis, Mo.). U. S. 2,527,295, Oct. 24. Apparatus for manufacturing gusset-side valve bags, comprising a rotatable carriage, a plurality of bag spreaders mounted on carriage for movement therewith in a horizontal circular path, each of bag separators being adapted to spread gusset sides of bag body horizontally flat.

Plastic Hinge Construction for Boxes and the Like, F. H. Magnus (to Magnus Research, Inc.). U. S. 2,527,318, Oct. 24. In a plastic box having a body section and a movable cover, a hinge construction comprising spaced hinge members on body section formed integrally therewith, spaced hinge members on cover section formed integrally therewith and each aligned with one of hinge members on body section and secured with hinge pin.

Package Construction, E. D. Andrews (to The Quaker Oats Co., Chicago, Ill.). U. S. 2,527,692, Oct. 31. A package construction comprising an inner sleeve of relatively stiff material, said sleeve having a longitudinal seam and being open at both ends, a sheet of transparent wrapping material snugly embracing the sleeve and

having a seam extending parallel to the first-named seam to form an enveloping sleeve.

Banding Machine, J. J. Prohaska (to Swift & Co., Chicago, Ill.). U. S. 2,527,330, Oct. 24. An improvement in an assembly for manipulating a strip of labels so as to apply the end label of a strip around an elongated package with ends of label overlapped and sealed thereto.

Combined Package and Reel for Coiled Wire, L. J. Daoust, Detroit, Mich. U. S. 2,527,401, Oct. 24. A combined reel and package comprising a rectangular container including front wall, rear wall and transversely disposed walls connecting front and rear walls, and drum-shaped reel having both ends closed and disposed centrally within container.

Cellular Carton, K. T. Buttery (to Sutherland Paper Co., Kalamazoo, Mich.). U. S. 2,527,701 and 2,527,702, Oct. 31. A collapsible, cellular carton formed of a single blank cut and scored to provide hingedly connected bottom, side and end walls, bottom members disposed at ends of blank and overlapped and secured together.

Paperboard Box, J. D. Crary and H. M. Mathers (to Paper Strap, Inc., Portland, Ore.). U. S. 2,527,705, Oct. 31. A box having a loop strap of fibrous material adapted to be slipped over the rear end portion of said box, said loop being an edge-folded paper strap readily foldable along the center line thereof and having length corresponding substantially to the peripheral distance around box in closed position.

Vegetable Box, R. E. Acker (to Container Corp. of America, Chicago, Ill.). U. S. 2,527,784, Oct. 31. A ventilated-end container for light, bulky materials such as green vegetables, comprising four interconnected hinged walls formed from a single blank.

Packaging Means for Annular Devices, J. B. Janney, Feasterville, Pa. U. S. 2,527,819, Oct. 31. A package comprising complemental similar end plates, each end plate having a composite groove comprising two relatively perpendicularly intersecting linear grooves and having post means disposed in composite groove in the form of a T in transverse section.

Container-Closing Machine, F. W. Krueger (to Food Machinery & Chemical Corp., San José, Calif.). U. S. 2,527,885, Oct. 31. A machine for spinning metal caps to glass jars.

Receptacle, P. L. Spencer (to Raytheon Mfg. Co., Newton, Mass.). U. S. 2,528,251, Oct. 31. A receptacle comprising a rigid backing member having a handle portion integral therewith, a flat bag of flexible sheet material, at least one end of which is sealed, and means for securing said member to exterior of bag adjacent to sealed end thereof.

Egg Case, H. D. Tichener (to Wabash Fibre Box Co., Terre Haute, Ind.). U. S. 2,528,256, Oct. 31. An egg case comprising a blank of foldable material shaped and foldable to provide inner and outer side-wall panels, end-wall panels and a pair of bottom panels joined to lower edges of side-wall panels and foldable into overlapped relation to provide a double-thickness bottom.

Self-Acting Closure, C. G. Bergquist (to Electrolux Corp., Old Greenwich, Conn.). U. S. 2,528,332, Oct. 31. A receptacle

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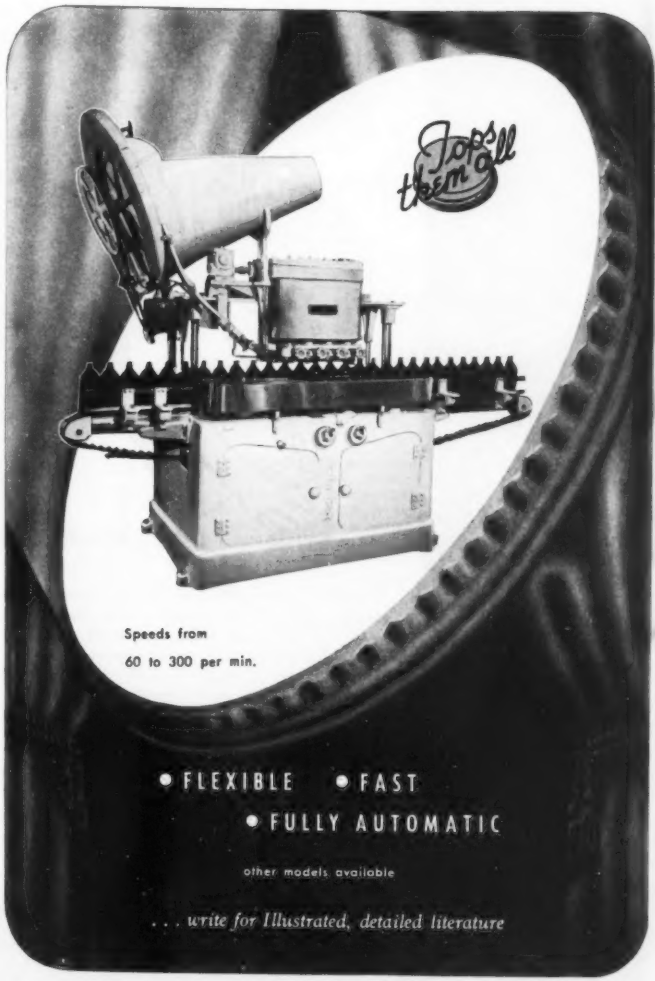
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U. S. patents digest

mouth structure comprising a pair of normally cooperating sheet members, each comprising a perimeter structure defining a circular aperture with a plurality of inwardly directed, resiliently deformable spaced fingers normally lying in the plane of their perimeter structure, number of fingers on each member being identical, fingers of one being oriented with respect to those of the other so that they overlie.

Bag Valve, E. E. Burroughs (to St. Regis Paper Co., New York, N.Y.). U. S. 2,528,419, Oct. 31. A bag formed of thin sheet material, comprising a normally flattened tubular-body portion with a corner turned to form a valve.

Pouch-Packaging Device, G. H. Whetzell (to Armour & Co., Chicago, Ill.). U. S. 2,528,463, Oct. 31. A packaging device comprising a member having a surface adapted to receive the product to be packaged and adapted to be received within the pouch.

Paint Container Means and Mixing Preselected Colored Paints, I. Machleder, New York, N.Y., (one fourth each to P. Stiller, B. Altman and J. C. Ledbetter). U. S. 2,528,530, Nov. 7. A sealed paint container having a cover and being adapted to hold basic paint ready to be colored to suit without removing the cover from said container, an internally screw-threaded opening provided in the sealed paint container and a blade in the opening adapted to rupture a sealed container of coloring matter when latter container is mounted in the opening.

Shipping Box and Crate, A. R. Ross, Renton, Wash. U. S. 2,528,551, Nov. 7. A crate of rectangular form having inwardly inclined side and end walls, a bottom wall less in width and length than the open top and transverse stacking frames located with the crate.

Sack-Opening Device, E. C. Swanson, Larchwood, Iowa. U. S. 2,528,562, Nov. 7. A sack-opening device comprising a pair of stitching cords stitched along the normally open end of a sack, one of cords passing through the sack plies and including integral loops, the other of cords including loops within said integral loops.

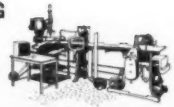
Container, R. W. McDermott (to National Folding Box Co., Inc., a corporation of Connecticut). U. S. 2,528,603, Nov. 7. A folding carton, more particularly for radio tubes, comprising five side walls forming panels hingedly connected to one another along side fold lines, a closure flap cut from the stock of the fifth panel.

Bottle-Filling Machine, J. E. Dunn (to Crown Cork & Seal Co., Inc., Baltimore, Md.). U. S. 2,528,644, Nov. 7. A bottle-filling machine including a base, a tank element rotatable on base about a vertical axis and having a plurality of liquid-delivery apertures formed therein.

Mechanism for Filling, Vacuumizing and Sealing Containers, S. H. Berch (to The Flexible Vacuum Container C. ., Los Angeles, Calif.). U. S. 2,528,680, Nov. 7. A vacuum-packaging machine comprising a vacuum chamber, an endless conveyor

IN LABELING, PACKAGING, CASE-SEALING

Modern machines call for special new adhesives



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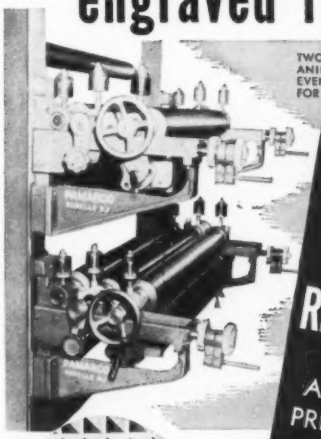

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chain therein, closure for vacuum chamber through which packages may be introduced and a plurality of package-receiving mold-carrier chains, adapted to receive open packages and the contents with which they are filled.

Sealed Tobacco Package, T. E. Piazze (to Shellmar Products Corp., Mt. Vernon, Ohio). U. S. 2,528,778, Nov. 7. A flat tube having a length formed of pliable sheet material, the inner surface of which is heat sealable together.

Labeling Machine, H. F. Caldwell (to Oliver Machinery Co., Grand Rapids, Mich.). U. S. 2,528,856, Nov. 7. In this structure, a support adapted to be connected with and located at one end of a wrapping machine, a horizontal roller mounted on same and means for continuously driving said roller, means for carrying wrapping paper mounted on support to and partly around roller and away therefrom.

Dispensing Closure for Collapsible Tubes, H. W. Beach, Abilene, Kans. U. S. 2,528,993, Nov. 7. A dispensing closure comprising a vertically elongated body having an axial bore and an annular groove disposed intermediate the ends of bore.

Carton, W. P. Frankenstein, Cincinnati, Ohio. U. S. 2,529,147, Nov. 7. In a knocked-down carton, the combination of a back, with side walls projecting from two opposed sides of said back, each comprising an outer and an inner member.

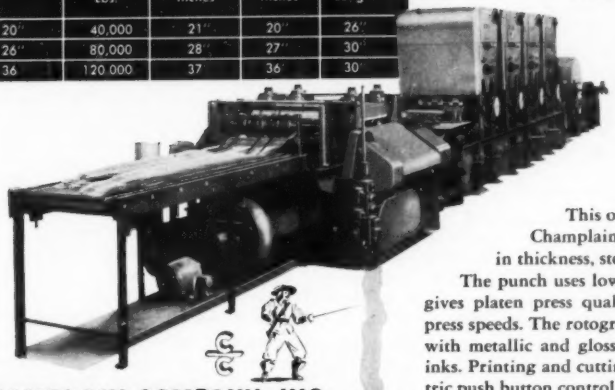
Machine and Method for Hermetically Sealing Closure Caps to Containers, H. E. Stover (to Anchor Hocking Glass Corp., Lancaster, Ohio). U. S. 2,529,199, Nov. 7. The method of sealing closure caps to containers which comprises sealing a closure cap to a container while the container is passing under a sealing mechanism and, during the sealing of the cap to the container, directing into the mouth of the container and into the interior of the closure a sterilizing and vacuum-forming vapor which is superheated.

Bottle Carton, G. C. Currie (to Dacam Corp., Charlotte, N.C.). U. S. 2,529,725, Nov. 14. A paper carton comprising a pair of side walls and a pair of end walls, one of end walls having a flap extending therefrom adapted to be secured to one end of one side wall.

Apparatus for Manufacturing Closures from Flexible Plastic Material, R. H. McClellan (to E. Edelmann & Co., Chicago, Ill.). U. S. 2,529,847, Nov. 14. Apparatus for forming closures from a continuous tube of a flexible plastic material.

Process and Apparatus for Forming Liquid-Carrying Containers, E. H. Land (to Polaroid Corp., Cambridge, Mass.). U. S. 2,530,306, Nov. 14. Apparatus for providing a base material with a container releasably carrying a liquid, comprising means for superposing on a sheet of base material, adjacent an edge of an area thereof, a strip of container-forming material impervious to liquid, means for securing said strip to base.

Model	Maximum Pressure Lbs.	Maximum Web Width Inches	Maximum Die Width Inches	Maximum Die Length
20"	40,000	21"	20"	26"
26"	80,000	28"	27"	30"
36	120,000	37	36	30



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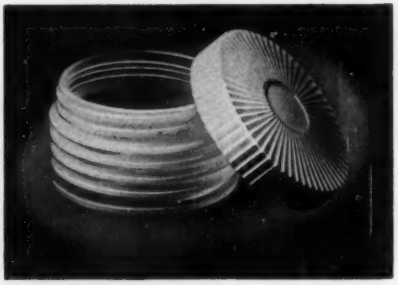

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NPA on aluminum

Certain base-period adjustments permitted during December under Direction 1 to the National Production Authority's aluminum-use order will be continued in the first quarter of 1951, NPA has announced.

These permitted adjustments supplement the aluminum order's original provisions covering the base period—the first six months of 1950—in cases where a business operation was commenced during or after the base period, or where an undue and exceptional hardship not suffered by others in the same trade or industry occurs.

The action (Direction No. 2 to NPA Order M-7) provides for the following three types of adjustments:

1. If new business operations were commenced or a new product was manufactured or produced during or after the base period, the following percentages are applied to the average use in the months of October and November for these new purposes: January, 80%; February, 75%; March, 65%.

2. Where changes were made in products during or after the base period which required more aluminum than was previously used to maintain the same unit output, a determination must be made as to how much aluminum would have been consumed on an average monthly basis if the products had been manufactured in accordance with the changed designs. To this adjusted figure the following percentages are applied to determine the permitted use: January, 80%; February, 75%; March, 65%.

3. If the production or the manufacturing operations were shut down for more than 15 consecutive calendar days during the base period, a person then may exclude from his base period the month or months in which the shutdown occurred.

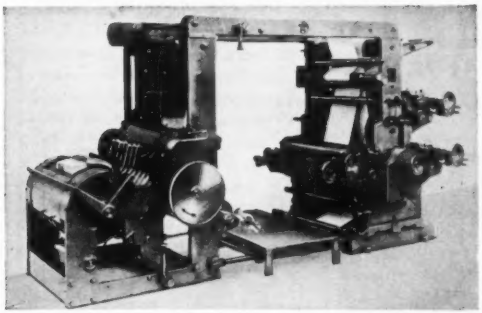
Beech-Nut

(*Article continued from page 90*)
will not distribute food nationally again, but its prime concern is population concentration.

Gum has national distribution through more than a million retail outlets—probably more than any other product except leading cigarettes, Coca-Cola and Wrigley's.

From a rented room in a crossroads store building, Beech-Nut has grown in 60 years into two huge plants built

15,000 ~~9,000~~ SHEETS PER HOUR!



. . . available in cutoff lengths from 9⅞" to 25" graduated in multiples of ⅛". Width sizes range from 20" to 32". All sheets delivered properly aligned to allow removal from top of pile.

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That's when the obviously high quality of Pacific's gravure labels can help you make a new customer!

You'll find they'll help in your plant, too—for Pacific can deliver *continuous rolls* of labels, box overwraps, butter and margarine wraps which add economy in application to high printing quality.

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Hayssen ELECTRIC EYE WRAPPING MACHINES

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Apples

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- Fracture-Proof
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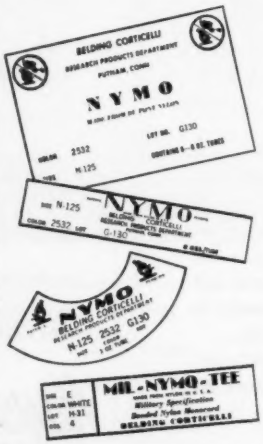
BELDING CORTICELLI *SAVES* BY PRINTING ITS OWN LABELS

Here's another Markem Success Story. Belding Corticelli needs four different types of labels in its packaging operations. Each type is a different size and shape. One is a crescent-shaped Avery Kum-Kleen label; the others are perforated and supplied in roll form. Labels are marked with many different data and colors.

When Belding Corticelli used outside suppliers to preprint its labels, the project was an expensive headache. Over-inventory, waste, storage losses, almost unlimited changes in detail, all ran up costs. Stock control was a staggering problem.

Then, along came the Markem TICKOPRES. With this simple, easily-operated machine, label imprinting turned into a money-saving matter. For the TICKOPRES now marks all four kinds of labels with clear imprints in perfect register. Type changes take only seconds, which means Belding Corticelli now produces only as many labels as are needed, at the time they're needed.

The low-priced, dependable TICKOPRES can probably save you time, money and inventories, too. Why not write—TODAY—for our latest fact folder on the versatile TICKOPRES? It may be the answer you're seeking.



MARKEM MACHINE COMPANY

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along the filled-in site of the Erie Canal at Canajoharie, another plant in Rochester, N.Y., the coffee-roasting and gum-manufacturing plant in Brooklyn and the baby-food plant in California. In 60 years these plants have turned out more than a billion dollars worth of packaged products. Not big, certainly, by comparison with some of today's food giants—but tremendous in terms of devotion to a founder's ideal of quality, with which Beech-Nut refuses to compromise, and highly significant to packaging in its championing of the glass package for which it has always been the prize example of use.

CREDITS (*for baby foods only*): *Jars, Anchor Hocking Glass Corp., Lancaster, Ohio; Armstrong Cork Co., Lancaster, Pa.; Owens-Illinois Glass Co., Toledo. Caps and vacuum capper, Anchor Hocking. Labels, Stecher-Traung Lithograph Corp., Rochester, N. Y. TMC 30-packet M & S filler, Sprague-Sells Div., Food Machinery & Chemical Corp., Hoopeston, Ill. Other fillers, The Pfaudler Co., Rochester, N. Y., and Mojonnier-Dawson Co., Franklin Park, Ill. Bottle washer, Standard-Knapp, division of Hartford-Empire Corp., Portland, Conn. Unscrambler and magnetic loaders and unloaders, W. F. & John Barnes Co., Rockford, Ill. Labelers, Burt Machine Co., Baltimore, Md. Case loader, Standard-Knapp.*

Potato chips

(*Article continued from page 113*)

store as a combined display dispenser.

The canning line on which 3-oz. packs of shoestring potatoes are handled includes a chamber in which the cans are placed on trays. Here a vacuum is drawn and replaced with an atmosphere of nitrogen before the tops are sealed on the cans, giving the product a shelf life of two years.

CREDITS: *"Hy-Tra-Lec" positive-displacement weighers (three machines), Wright Machinery Co., Durham, N.C. "Elec-Tri-Pak" dribble-fill scale weighers (two machines), Triangle Package Machinery Co., Chicago. Heat sealers for bags, Pack-Rite Machines, Milwaukee. Automatic bag-making machine, Simplex Packaging Machinery, Inc., Oakland, Calif. Printed glassine bags, Milprint, Inc., Milwaukee. Printed cellophane for plant-fabricated bags, The Dobeckmun Co., Cleveland, and Champion Bag Co., Chicago. Lithographed cans, Cans, Inc., Chicago. Cans for 3-oz. nitrogen pack and related equipment, Continental Can Co., New York. Labels, Muirson Label Co., Inc., Brooklyn. Corrugated shipping containers, Eddy Paper Corp., Rockford, Ill., and National Container Corp., Tomahawk, Wis.*

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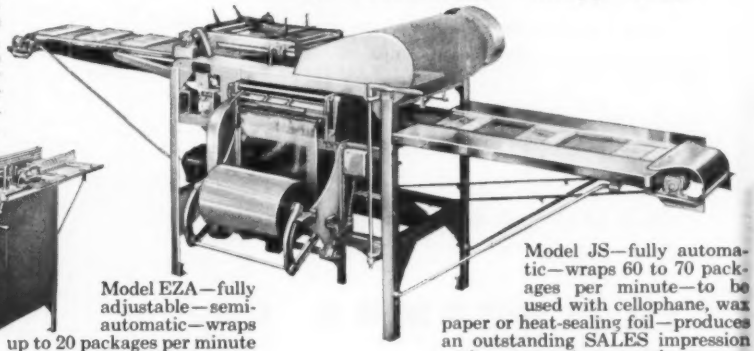

Model EZA—fully adjustable—semi-automatic—wraps up to 20 packages per minute—simple and compact in design, with 5 minute change-over to different size wrap.

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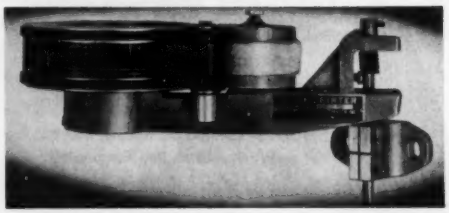

Priced from Only $140
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Max. Imprint 1"x9"

Automatically dates, codes or marks containers and packages during production runs

Used to mark filled bags, cartons, boxes, rolls, cans and other packages while they are moving along a conveyor, the "Whippet" Marker imprints dates, codes or any other information. It's a non-stop operation . . . done without disturbing your conveyor.

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"FREE" *Catalog.* Send today to see the complete line of units that print multi-wall bags or corrugated containers, both loaded and knocked down.

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Pack in popcorn?

Proposed use of popcorn as a package cushioning material has been given a quick "thumbs down" by the Food and Drug Administration of the U.S. Dept. of Agriculture. Popcorn as a possible packing material gained wide publicity in the recent Industrial Packaging Competition sponsored by the Society of Industrial Packaging and Materials Handling Engineers in Philadelphia.

FDA opposes it, however, on the basis of fear that the popcorn packing will be eaten after it has fulfilled its mission. The administration feels that no precautions would be taken to protect the popcorn from dirt and other contamination and its use for packing would, therefore, constitute a health hazard, especially where children are concerned.

The idea of using popcorn for this purpose originated with Albert R. Rausch, traffic manager of Winthrop-Stearns, Inc., pharmaceutical manufacturers, Rensselaer, N. Y. Tests conducted by this firm indicated the practicability of the popcorn as an economical package cushioning material for protecting fragile articles in shipment, according to Hugo Vogel, the company's director of purchasing.

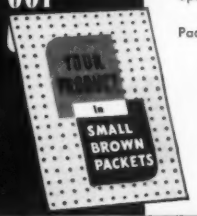
In a series of tests, representative glass shipments were packed in double-faced corrugated paperboard containers and dropped from the roof of Winthrop-Stearns' warehouse to an asphalt pavement 60 ft. below. One shipment was packed with 10 oz. of popcorn and the other with the conventional shredded paper, with 24 oz. of the material being required.

Opened and inspected after the drop, not one of the bottles in the popcorn-packed package was broken, whereas in the carton protected with shredded paper, the bottles were smashed to fragments.

Winthrop-Stearns is ready to adopt the popcorn idea in its own shipping department and is awaiting official approval of the U.S. Post Office.

The FDA is urging the Post Office to veto the use of the material on the ground that it is a danger to the public. The FDA claims that it would be an incentive for reselling the packaging as food and threatens to require food labeling on any package containing popcorn cushioning and then charge "slack filling" on the grounds that contents of the pharmaceutical package is not entirely popcorn.

Point off the Cost of a Brown Packet 001



Brown packets make you low-cost conscious. In quantity they can be as little as .001 of a cent apiece and in appearance and quality, as distinctive as your full sized package. Each Brown packet is expertly sealed with uniform open ends, economical to fill. Brown Bag Heat Sealed Packets also carry every one of these qualities.

Serving as 50 year old packeting specialists to drug and cosmetic leaders such as: United Drug Co., Tussy, Sutton, Colgate-Palmolive-Peet, Wrisley, Cuticura.

Do Your Sales Up "Brown"

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BAG FILLING MACHINE CO., Inc.
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Manufacturers of Open End Envelopes, Packets and Packaging Machinery

REP. Burnard C. York Packaging Machinery, 5807 West North Avenue, Chicago 39, Illinois
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Get a Brown Packet Quotation Today

Send for complete descriptive literature on Brown Bag Packet Filling Machinery.

PORTABLE AND DESK MODEL MICROMETERS with easy-to-read dials

CADY
Hand Model

has cast aluminum frame, shaped to fit hand; convenient trigger raises and lowers anvil; capacity is thickness up to ½"; horizontal glass covered 3" diam. dial graduated 1/1000ths of an inch. For use throughout the plant or when traveling. Extremely accurate; direct reading; no computing. Spherical end anvils available on order.

For calipering thicknesses of Papers, Boards, Foils, Felt, Glass, Metals, Plastics, Rubber; Sheet stock or Finished Products with thicknesses to one-half inch.

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Registers thickness to 5/16"; available with 4, 7, 12 or 18" throats. Glass covered dial is 6" diameter; graduations 1/1000ths inch.

CADY
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Dead Weight Anvil descends by gravity for extremely uniform pressure and completely accurate calipering. 6" diameter glass covered dial; 1/1000ths graduations.

Write for data and prices: Burst Strength Testers, Micrometers, Basis Weight Scales.

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WHIZ-PACKER

PACKAGE FILLING MACHINE BENCH MODEL

Products like powders, nuts, crystals, candy, seeds, teas, coffee, spices, frozen foods, soup mixes, peanuts, beans, popcorn, etc., require accurate net weighing—and high speed filling.

Whether you use WHIZ-PACKER BENCH OR FLOOR MODELS, you can fill any size—any type package at a speed up to 104 a minute—with close tolerance accuracy.

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Dutch perk-up

(*Article continued from page 118*)
product, thus proving again that a good place to look for fresh packaging ideas is close to the product and its production, packaging and merchandising environment.

In contrast to the novelty of packages cited above are the equally effective packages for pipe tobaccos (Fig. 6) which lean heavily on traditional design. The designer in this instance has carefully taken into account the contemplative and romantic inclinations of most pipe smokers. Also, he has shown sympathetic regard for the fact that Dutch smokers have had to make one paper of tobacco last a long time.

Accordingly, interesting reading text is incorporated on the paper package for one brand of tobacco and an antique pipe collection has been reproduced on another. These additions to the package are intended to have greater and longer-lasting appeal than ordinary commercial legends and thus make the package easier to live with for extended periods. The containers consist of a parchment inner wrap for moisture protection and a paper outer wrap. The later uses only two colors —vermilion and black—and thus keeps offset costs at a minimum.

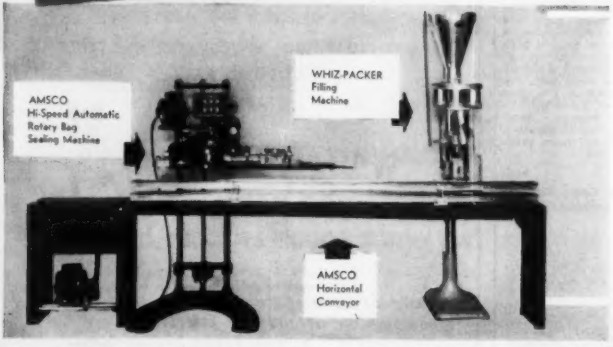
Merchandising features are receiving strong emphasis. A manufacturer of boot laces has adopted a display carton (Fig. 7) designed for use in continental shops where this product has not frequently been sold from display. The new carton was, therefore, kept as informal and unobtrusive as possible, while at the same time employing bright, pleasing colors and a minimum of copy. The packer has two display wells created by cutting square surface panels diagonally to form wedge-shaped flaps that are bent down to form inverted pyramidal trays. Boot laces are then loosely inserted to provide a jumble display. The box, carried flat and set up in the shops by salesmen, has won instant retailer and consumer acceptance. By careful approach to the problem of changing accepted customs, the packager has apparently sidestepped the resistance that might have been encountered with a more flamboyant display.

Another example of a package with specialized merchandising function is a carton tube of children's tooth paste. The carton achieves interest for juveniles with playful elephant figures and a cheerful color combination of yellow, green, gray and red. The package is especially interesting for its attempt to reach a segment of a well-established market.

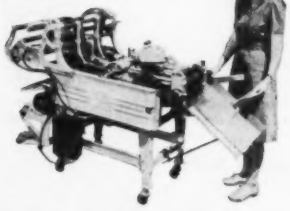
Materials used in Netherlands packaging, as is to be expected in a country where severe scarcities still exist, are inclined to the traditional. Also, an obvious effort has been made to avoid overpackaging without relaxing emphasis on full protection. Paperboard, wood, glass and tinplate are the materials in most common use. Cellophane is important, of course. One very attractive example of its use is a light blue printed overwrap for a towel set packed in a carton tray. Featured in the design are four Dutch girls in native costumes. The skirts of

making a quality product is *your* business packaging it economically is *our* business!

that is why ARNOLD BAKERS, INC. uses AMSCO PACKAGING EQUIPMENT



SIMPLEX High Speed
Automatic Bag Making Machine



If you are interested in reducing the cost of your bag packaging, an AMSCO engineer will show you how. We can supply cost-saving equipment for every operation, starting from the roll stock to the finished product . . . bag making, bag filling, bag conveying, bag sealing . . . individual units available for each operation or complete bag packaging set-ups.

Choose AMSCO to package your product in cellophane, morelux, diafone, foil, pliofilm, polyethylene or any other heat sealable material . . . printed or unprinted. Savings in labor and increased production pay for your AMSCO equipment in a comparatively short time. Contact AMSCO today!

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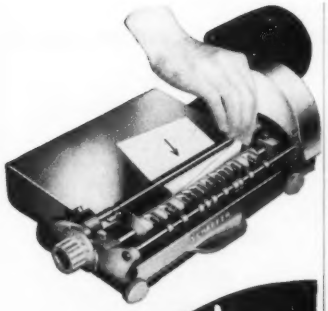

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BOXES - BOTTLES - CANS

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NEAT RESULTS. Printing stays clean. No glue ooze at edges of labels. No lumps, blisters or wrinkles. Easy to operate.

PRACTICAL CONSTRUCTION. Bronze tank and bearings. Calibrated dial glue control. Hand & motor driven. Use vegetable or resin glue. 7", 11", 16", 22", 28", 34", 42" wide.

FREE TRIAL

SCHAEFER 7" LABELER Disassembled for Cleaning

Schaefer MACHINE CO.

55 CARBON ST.

BRIDGEPORT, CT.

these costumes are clear cellophane, providing visibility for a portion of each of the four towels in the set. The only copy on the wrapper is "Made In Holland."

On many of the packages there is a minimum of reading matter. To some extent this is compensated for by illustration, surface design and product visibility, or a combination of these, intended to streamline identification of the package in merchandising its contents. In some instances, of course, where domestic packages are concerned, lack of extensive and potent sales copy can be accounted for by the fact that many packagers are still dependent on distribution in a country where the sales clerk figures more prominently in the sale of most products than would be the case in this country.

The road ahead

(*Article continued from page 79*)

Korea, some distillers increased whiskey production. White-oak staves and headings experienced an accelerated demand and prices responded accordingly.

MACHINERY

Mechanization of packaging operations takes on added importance in view of the imminent shortage of manpower. Packaging machinery is basic, for in the actual production of a package, one material often can be substituted for another that is in short supply, or the shape and structure can be changed. But there is no substitute for packaging machinery, especially when labor is scarce.

The outlook at present for obtaining packaging machinery is fair, although demand is said to be running ahead of supply, with the situation sure to become tighter. Shortages of aluminum, copper and brass are being felt and will become more serious. It is perfectly evident that packaging machinery will become more difficult to get, particularly those machines designed for a specific purpose.

The wise packager, if he has not already done so, will review and try to anticipate his machinery requirements so that older or inadequate equipment can be replaced while there is still time to obtain needed machinery. He will also be thinking

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REG. U.S. PAT. OFF. & ABROAD

OVER 28 TYPES AVAILABLE

That extra seal you see —the protecting inner-seal adhering to the bottle when you remove the cap has been developed to solve specific problems for manufacturers who package in glass. Problems such as:

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- ✓ EVAPORATION
- ✓ MOISTURE INGRESS
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For closures that sell call a closure manufacturer.

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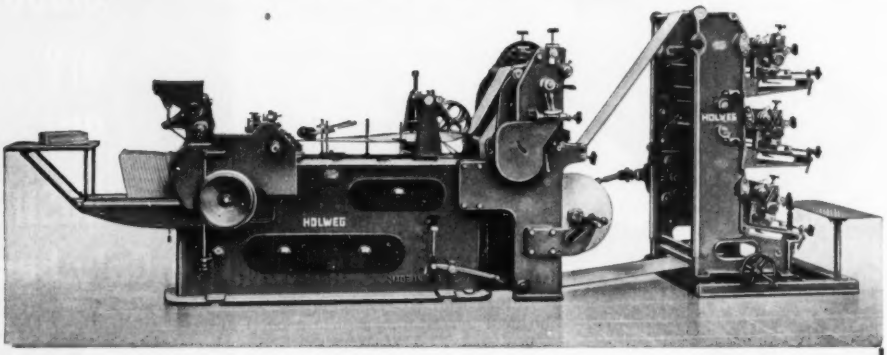
PAPER AND CELLOPHANE BAG MAKING MACHINES • ANILINE PRINTERS



ROTO-SIMPLEX NO. 1 WITH ANILINE PRINTER NO. 50

A DUAL purpose machine making flat and gusset bags and bag-envelopes in a wide variety of sizes at extremely high speeds. Patented and exclusive perforator instead of beater permits faster and quieter operation. Size change-over quick and easy. Aniline printers two to six colors in three different sizes. Demonstration by appointment. For full particulars on prices and delivery write to—

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Cheaper
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Better
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LUSTRALITE PLASTIC COATING

for labels, wraps, covers, cartons

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DISPLAY DIVISION • MONROE, MICHIGAN

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BAGS
BARRIERS
ENVELOPES
and
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to meet moisture vapor proof, greaseproof and water proof requirements of MIL, JAN, and AN specifications

Skilled technical assistance is available upon request

Write, wire or phone
THE
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in terms of higher speeds and more efficient operation of existing machines. Maintenance, of course, becomes a more important factor than ever before.

Equally important is the stocking of critical repair parts to avoid harassing delays in the future when vital replacement parts for existing machinery may be hard to get.

The Munitions Board has recognized the importance of packaging machinery and surely some materials allocation program will be forthcoming to assure the future supply of essential packaging equipment. The point cannot be too strongly made that packaging machinery has such a terrific potential in the saving of manhours of labor that the benefits are out of all proportion to the relatively slight amount of materials required in their manufacture. There is at present, however, no means for a manufacturer—except through DO ratings—to acquire critical material needed for packaging that may become unavailable through shortages.

Cellophane resolution

A resolution urging the allocation of more cellophane and other wrapping materials to food retailers was adopted by the Super Market Institute representing some 4,500 supermarkets with an annual volume of $3 billion, at a recent mid-year meeting held in Houston, Tex.

The resolution, which will accompany a study of retailer use of vital wrapping materials is to be submitted to interested Government departments. The Institute also hopes it will prove a stimulus to manufacturers of critical wrapping materials to reduce the use of cellophane for non-critical, non-food purposes.

"Cellophane and other transparent wrapping films suitable for the market of perishable food products by the self-service method, the most efficient form of food distribution, should and must in this national emergency be devoted to those purposes which are most vital to the national economy," the resolution states. "Of those purposes, the most vital is the preservation of food. This body, therefore, urges the allocation of a greater supply of these supplies to the retail-food industry and the elimination of the sale of cellophane for decorative purposes and the wrapping of non-perishable products where no useful purpose is served."

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Sifta-Seal is just one of the many types of specialty closures that protect your product best.

For closures that sell call a closure manufacturer.

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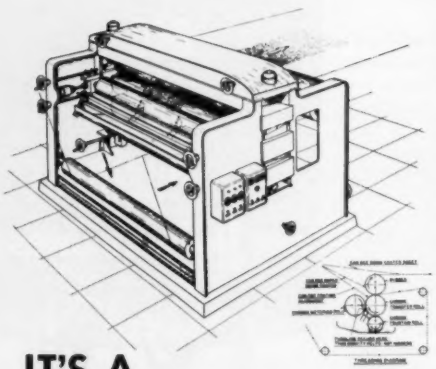
IT'S NEW



IT'S A *CONTRACOATER*

Contracoater applications begin where reverse roll coating leaves off. Unique and outstanding features include:

1. EXACT WIDTH OF COATING can be deposited on any width sheet. Controlled adjustable dams utilizing gravity return; creeping of coating is eliminated.
2. COMPANION EDGE DOCTORS predetermine the width of coating from fountain roll to transfer and metering roll. These adjustable doctors remove coating material from unused portions of transfer roll.
3. CLEANING DOCTORS remove excess coating material from metering roll.
4. ADJUSTABLE PRE-LOADED BEARINGS eliminate bearing shake and vibration.
5. CHROME PLATED ROLLS ground extremely close.
6. PERFECT ALIGNMENT, accurate bearings and ways, ruggedness and rigidity essential to controlled coating.
7. ROLLS POSITION QUICKLY to predetermined mechanical stops by pneumatic loading cylinders. Should rolls be separated for any reason they automatically return to original setting.
8. MICROMETER SETTINGS actuated by remote control. Designed for .001" difference by one dial turn.
9. STAINLESS STEEL PAN cradle-mounted with adjustable vertical positioning. Can be lowered instantly for removal. Can be jacketed for heating.
10. ADJUSTABLE POSITION WEB GUIDE ROLL.
11. ELECTRIC DRIVE allows any desired speed differential between rolls.
12. CONTROLLED ROLL PRESSURES VISUALLY RECORDED.
13. OPEN FRAME for visibility and easy access.

Speeds up to 1000 f.p.m. Sizes to all requirements.

Contact Dilts for additional particulars.

DILTS MACHINE WORKS
FULTON, NEW YORK
Division of The Black-Clawson Company, Hamilton, Ohio

Faster Filling with the ANDERSON PORTABLE BAGGER

Designed to handle foods, confections, and numerous products in metal, plastic, wood, and rubber. Operates with a minimum of effort at a maximum speed.

Simple adjustment for height . . .tilting forward or backward enables the operator to set machine at easiest working position.

Stainless steel trough with capacity of 200 bags. Adjustable to bag sizes. Blower with filter keeps bags clean and free from foreign matter.

ROCKFORD Anderson BROS. MFG. CO. ILLINOIS

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for barrier paper and dip coating specifications JAN-P-115

Special coatings for paper & board

Impregnating and laminating waxes and compounds

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Our laboratory will gladly cooperate in new developments

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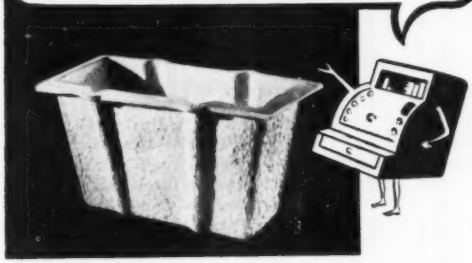
check the Advantages of Modern Molded Paper Containers by Keiding



- ✔ The economical substitute for metal, glass, fibre or plastic containers.
- ✔ Salesmaking packaging for candies, fruits, vegetables, soaps, bakery, many other products.
- ✔ Attractive designs, lightweight, sturdy, INEXPENSIVE.
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LARGEST MANUFACTURERS OF MOLDED PAPER CONTAINERS

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GETS THEM PACKED AT THEIR PEAK

When crops hit the flavor-peak, frozen food packers know they can depend on Continuous Flow wrapping machines. By the Continuous Flow principle, they package the foods at high speeds — and with a minimum of labor. Free from harsh, jerky stop-and-start movements, they are capable of top production, day and night, with no costly, time-consuming breakdowns for maintenance. . . . These are just a few of the reasons why Battle Creek Wrapping Machines are selected by leading packers to speed frozen foods to America's tables, perfectly wrapped, and at their garden-fresh best.

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Use **no-flex** PLATE ROLLS

- CAN'T FLEX OR WHIP
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UNCONDITIONALLY GUARANTEED FOR SEVERE SERVICE

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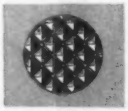
EVENFLO ENGRAVED ANILINE INKING ROLLERS — Eliminate ink waste, poor quality runs and rejects due to faulty inking and require no time-consuming adjustments. Evenflo Rollers meter the ink in the exact quantity needed, continuously and automatically. Proper inking — without operator attention — saves stock, ink, press down-time and operator fatigue. Using Evenflo Aniline Inking Rollers means high production quality — lower production costs.



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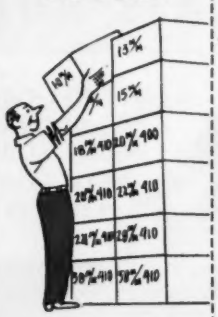

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Odor permeability—

(*Article continued from page 122*)

pentine test for routine control work, with only occasional checks on odor permeability, and yet be assured of glassine with satisfactory odor barrier properties.

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No-deposit bottles

Interesting information relating to consumer reaction toward the large, family-sized, no-deposit, beverage bottle has developed as the result of two beverage studies made by independent research organizations, according to reports issued by Owens-Illinois Glass Co., Toledo, Ohio.

The first study, made by Mid-Continent Surveys, Minneapolis, Minn., revealed the opinions of consumers in five different Minnesota cities about the no-deposit beverage bottle after they had been exposed to this package

Military Specifications for glues and paper products

☆ ☆ ☆ ☆ recommended materials to comply

No. of Specification Date of Latest Issue	TITLE	MATERIALS TO COMPLY
JAN-P-101 1 March 1945	Packaging and Packing for Overseas Shipment. Adhesive, Water-resistant, for Sealing Fibreboard Boxes	Type I or II, Grade A or B: CASCOLA CS-217-M
JAN-P-140 16 October 1946	Packaging and Packing for Overseas Shipment. Adhesives, Water-resistant, Case-Liner	Type I or II, Grade A—CASCOLA WP-311
UM-186 3 August 1945	Medicinal Products and Clinical Laboratory Reagents; General Specification for Containers (Packaging and Packing)	For gluing labels to Type I (glass) containers: LP-85

Other glues to meet JAN-P-117, JAN-P-120, JAN-P-125, JAN-C-1042, JAN-D-111, JAN-D-232, JAN-P-108, JAN-A-136 and many other specifications

● Send for your free copy of Casco Service Bulletin 82, "Government Procurement of Wood, Plastics and Paper Products." Lists Purchasing Offices, includes complete Specification Chart, tells how to estimate glue costs. It's part of Borden's Glue Service. Address: Dept. MP11, The Borden Company, Chemical Division, 350 Madison Avenue, New York 17, N. Y.

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for all free-flowing solids

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Many Styles . . . Write

Ask for sample Unit Service Packets . . . there's one that's right for your product . . . or we'll design a special model to do the job.

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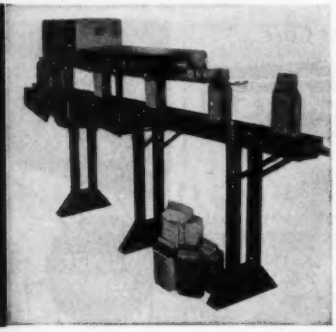
makes sift-proof seals in heavy weight paper bags



Why struggle along with antiquated methods when the Fry Model CSG automatically makes a double-folded *sift-proof* heat seal in the top of any heavy weight paper bag. The first fold is securely heat sealed; the second is glued for extra safety.

Perfect for granular or fine products such as foods, chemicals, insecticides and the like.

Bags handled include polyethylene and pliofilm lined, and those with thermoplastic top sealing bands. Simple adjustments for bags of various heights.

When writing, please submit a sample of your bag and your product.

George H. FRY Company — 167 Front Street, New York 7, N.Y.

for a period of approximately six months. The second study, conducted by the Research Services Co. of Denver, Colo., was based on weekly sales of beverages obtained by weekly inventories in a group of four typical self-service stores in Denver.

The Minnesota study indicated that seven out of 10 of the consumers interviewed said they would choose the no-deposit bottle if they could get the brand and flavor desired in a throw-away container.

Of those who preferred the single-trip bottle, more than 70% said that the problem of returning bottles and the accumulation of empty bottles were the chief reasons for preferring the no-deposit package.

Limited availability of popular brands and flavors in the one-way bottle appeared to be the chief factor in delaying acceptance for the single-trip package.

Results of the Denver study pointed up the fact that when beverages of good quality are bottled in a single-trip bottle, properly introduced and properly advertised, the single-trip package can become an important factor in their area of distribution.

A breakdown of the total sales of three leading brands in all four stores selected for the tests showed that 44.2% of all sales of the four flavors in family-sized packages were in one-way bottles.

Mobile X-ray

Quartermaster Corps technicians have developed powerful X-ray apparatus, housed in a semi-trailer, to detect defects in cans or other containers and deterioration of their contents. Removal of the cans from their packing cases is not required. Estimated savings in excess of $30,000 a month are anticipated if extensive testing sustains preliminary findings, making it possible for high-speed X-ray inspection to replace the present manual method.

In the new method, cases fed by gravity conveyor are automatically positioned in front of the X-ray tube. An operator sitting behind a lead-glass shielded screen studies the fluoroscopic shadows of each case and can detect bulged cans and gas pressure. Variations in the density of the fluoroscopic patterns indicate the character and degree of contents deterioration. Questionable cases are diagnosed radiographically as a further check and are then opened for physical inspection.

Produce ice bags

Indications are that a tremendous market will develop during the coming summer months for pre-packaged produce, such as mixed salads, cole slaw and spinach. Unfortunately, though, many processing plants that pre-package such items can't handle them during the hot weather. This is due to the lack of a low-cost, efficient method of keeping the temperature of

the pre-packaged produce at a safe level until it reaches the retailer.

An economical and efficient method of refrigerating the produce during transit has recently been evolved.

Atlantic Commission Co.'s Research & Development Dept. in cooperation with a package supplier worked to solve this problem.

Their solution to it has taken the form of a specially constructed ice bag placed in the carton between layers of the transparent film bags. Made from 50-lb. kraft paper, the bag is coated with polyethylene on the inner side of the sheet. After filling with 5 lbs. of hydro ice, the bag is closed on a regular heat sealer without any adaptations or machine changes. The bag is then placed in the master carton.

During transit, the ice naturally melts. The bag, however, contains the water, thus keeping the packages and master carton from disintegrating. And all this time, the ice and then the melted water constantly absorb the heat from the produce.

These ice bags also offer another plus feature. In those retail outlets not equipped with refrigerated counters, the bags can be placed overnight in the frozen-food lockers to refreeze the water. Next day they can be displayed on top of the produce counters.

CREDIT: *Ice bags, Union Bag & Paper Corp., New York.*

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BAG MAKER!

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FAST! More bags per minute than ever before!
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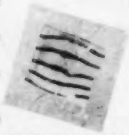

- Reduces production costs. Uses 50 per cent less Cellophane.
- SPEED — 100 Pops per minute, One Operator. 150 Pops per minute, Two Operators.
- Increases package appeal. Completely Heat Sealed Package.
- Simple in construction and operation. (Improvements on the Paper Feed and Lollypop Alignment Mechanism make the machine still easier to maintain and operate.)
- Adjustable within limits. (Send us your samples and we will advise if Interchangeable Parts can be supplied to wrap your complete line.)
- Multiple Cut-Off Attachment for automatically making packages of any number of lollypops. (This is optional equipment at additional cost.)

ADDITIONAL MILITARY AND CIVILIAN APPLICATIONS. This machine can also be used for the unit packaging of small items (without sticks).

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Defense-bid costs

Importance of including proper packing costs in bids for defense contracts was stressed by Jerome F. Gould, manager of the Jerome F. Gould Corp., export packers in a recent talk before the Foreign Commerce Club of Syracuse, N. Y. Mr. Gould cited the experience of government contractors in World War II "who would pay little or no attention to the packing requirements of the invitation" and then would approach the contracting officers "seeking increases in price to cover packing requirements they hadn't even read or regarded as important."

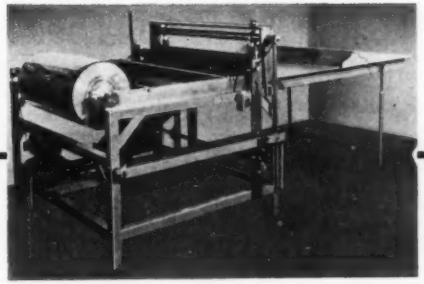
Mr. Gould told his audience that packing is a manufacturing operation. Paying tribute to the research techniques of Government agencies in the packing field, Mr. Gould said, "Industry has contributed much to Government packaging but the Government has contributed much to industry packaging. Commercial application of Government developed or Government sponsored techniques has become more frequent than you may suppose."

Polyvinyl alcohol

Representatives of the adhesives manufacturing industry met in December with National Production Authority officials to discuss the adhesives industry's role in the defense program.

They pointed out that DO defense rated orders placed with the adhesives industry are currently absorbing the available supply of polyvinyl alcohol, the chemical which makes adhesives water-resistant. They said that sizeable amounts of polyvinyl alcohol are now being used by manufacturers of V-board for weatherproof containers and recommended that V-board manufacturers convert to use of formaldehyde and starch adhesives. These, it was said, were initially used in making V-board and are in adequate supply at present. This would release the amount of polyvinyl alcohol needed to meet immediate essential civilian adhesive requirements.

Shortage of polyvinyl alcohol is reported to be caused by difficulty in obtaining its basic chemical vinyl acetate monomer. NPA told the conference that it would take under advisement the suggestions made.



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PACKOMATIC Case Gluer-Sealer, above Imprinter, right.

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FOR IMMEDIATE DELIVERY. Pneumatic Scale Hi-Speed Auto. Carton Feeder, Bottom and Top Sealer. Stokes & Smith G1, G4 and HG88 Auger Powder Fillers. Triangle Model SHA Auto. Net Weigher and Carton Sealer. Triangle Electri-Pak G2C, G2S and A6CA Fillers. Filler 1, 2, 4 and 8 Head S.S. Fillers. Pony M, ML, MX and MLX Labelrites. Ceco Auto. Carton Closing Machine. Standard Knapp 492 Carton Sealer. Pneumatic Scale Auto. Tite-Wrapper. Hayssen 3-7, Package FA and DF, Scandia Model SUS & SFC Auto. Cellophane Wrappers. This Is Only a Partial List. Tell Us Your Requirements. Union Standard Equipment Company, 318-322 Lafayette Street, New York 12, N. Y.

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AVAILABLE Salesman desires position with coarse paper mill or converter as sales representative or sales manager. Particularly interested in packaging and equipment. Prefer midwest or Pacific Coast territory. Age 38. 15 years sales experience. 5 years as sales manager. Proven sales record in coarse paper sales. Experienced in administration, sales directing and sales promotion. Can furnish best of references. Box 138, Modern Packaging.

A PACKAGE OF ASSORTED TALENTS AND EXPERIENCE available to manufacturer, industrial designer, or retailer. Have just given up my own package decoration business, and am interested in position with large firm. Extensive background of styling, merchandising, promotion, and writing for manufacturers and retailers. Free to go anywhere. (Woman, incidentally). Box 139, Modern Packaging.

Have you an opportunity for an eager man, 32 yrs, B.S. degree, experienced in packaging powders—plant management, all phases. Fully experienced all Stokes and Smith packaging equipment and Continental Can closures. Move to the job. Box 140, Modern Packaging.

HELP WANTED

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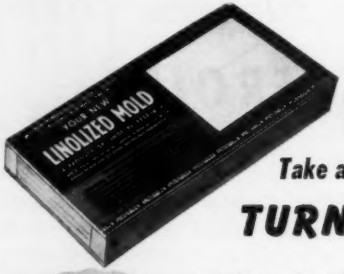
WANTED: 1–Model A and 1–Model B Transwrap Machines; 1–S & S G-1 Powder Filler; Potdevin Grocery Bag Machines, ¼# to 35#; 1–Gluer & Compression unit to handle 24" L x 14" W x 16" H Cartons. Box 143, Modern Packaging.

For Sale. Valuable back issues of Modern Packaging Magazine in bound volumes, 1928 to 1949. Write for prices, stating issues desired. Breskin Publications, 122 E. 42 Street, N. Y. 17, N. Y.



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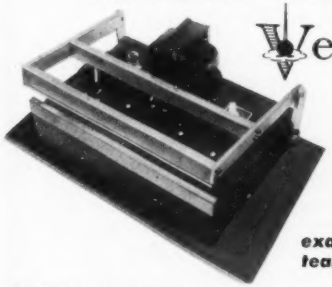

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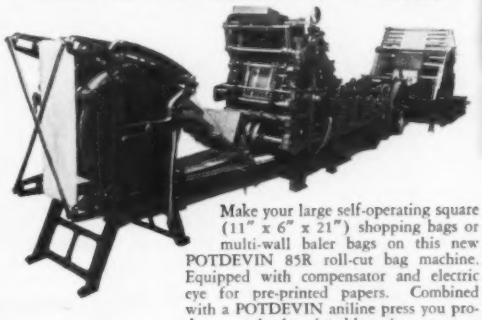

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Your own appreciation for your product is quickly reflected in your choice of a container. Why "kill" sales with a bug-duster of questionable design and quality. The new patented R. C. Spra-Can incorporates many exclusive features — specifically designed in answer to past consumer objections to inferior, make-shift dusters. R. C. Spra-Can offers Controlled Powder Pressure . . . Special Clog-Proof Feed Construction . . . Countersunk Nozzle-Vent for spray uniformity . . . Sturdy Bellows Diaphragm built to "take-it," even under roughest usage . . . Moisture-Proofed Stock to assure free pumping action at all times, in all climates.

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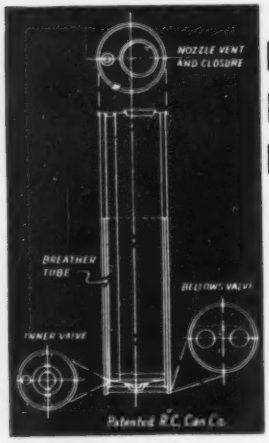

1. **Sprays at Any Angle — Upside Down, Sideways.**
2. **Rapid, Non-Binding Bellows Action.**
3. **Uniform Spray — No "Puffs" or "Blasts."**

Years of constant research and engineering know-how have earned for the R. C. Can Company the title of "Product Tailors" for industry. Why not put your next packaging problem in our hands — your assurance of exacting quality, added sales appeal, and continued customer satisfaction.

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